Test Driving the Amiga™

Word Processing on the 128 PC

THE Guide TO COMPUTER LIVING

May 1986

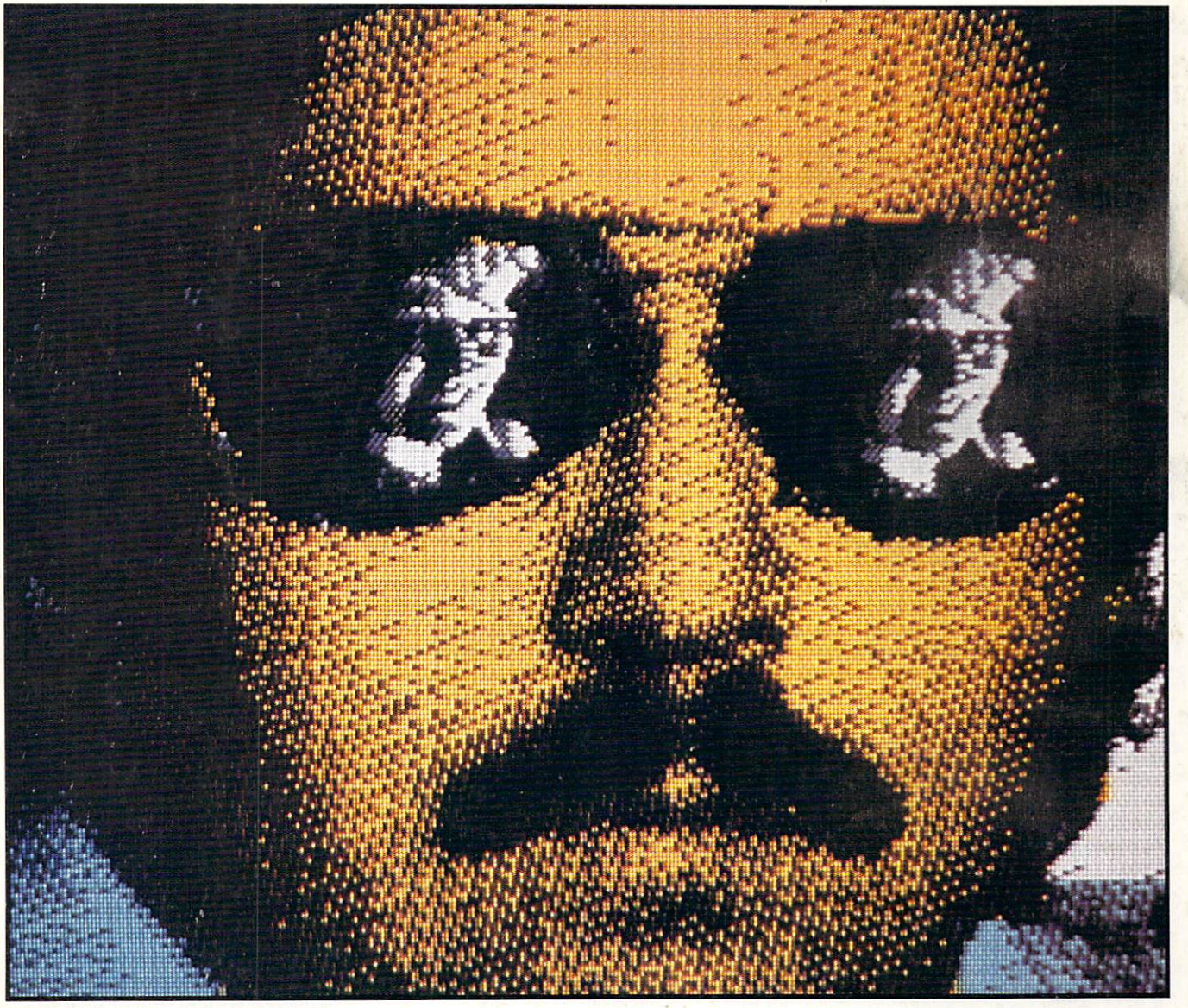
$2.50 U.S.

$3.50 Outside U.S.

Vol. No. 3
Issue No. 2
P.D.C.

A Monthly Publication For Commodore™ Owners

(Formerly The Northwest Users Guide)



"<<E>> and Me" by Jon Gourd

0 74470 17515 5 05

For Your Eyes Only . . .
Dr. Curryfavor's Code Game

Aquarian Software Presents

Modem Master

by Bob Richardson

The Friendliest Commodore BBS Available

- 300/1200 baud operation
- New Punter file transfer protocol
- Full menu-driven
- Over 25 commands
- Public message base
- Private E-mail base
- E-mail check at sign-on
- Sub-directories for file transfer
- 250-user capacity
- Accurate clock/calendar
- "Old" E-mail deleted after one week
- User survey/poll
- Printer output
- Information files
- **Set-up in only ten minutes**

Only $29.95

Bob's Term Pro

This full-featured program gives you total control of your modem!

Modem Compatibility
- Commodore 1650 Automodem
- Commodore 1660 Modem 300
- Commodore 1670 Modem 1200
- Westridge
- Mitey-Mo
- Hes I and II
- Total Telecommunications
- Hayes Smartmodem 1200

Uploading and Downloading
- XON/XOFF
- PUNTER protocol
- XMODEM protocol
- And much more

Buffer Facilities
- 28,500 bytes
- Dump to screen, printer, or disk
- Full buffer editing

Plus:
- 10 custom character sets
- Unlimited phone book storage
- Fully menu-driven
- User adjustable parameters
- Full featured remote mode

~~$59.95~~

No other C-64 modem software can compare in speed and capability!

Now Only $49.95

From Progressive Peripherals

The Cataloger

The Ultimate Disk Cataloging System for the 64!

The Cataloger can help you find any program instantly. You will know exactly which disk number, name, and ID the program is on, front or back of disk, category (game, utility, music, etc.), whether it is protected (if so, what errors), the date the program was entered, the block count, and any comments concerning that program.

Features of The Cataloger Include:

- Easy loading. Loads directly from disk.
- Ability to change name of entry.
- Uses relative files exclusively.
- Search, Sort and Print by any of 12 fields.
- Capacity for 1400 different programs (or disks) per data disk.
- FAST–all machine language.
- Menu driven–very easy to use.
- Works with ALL printers.
- Works with one or two drives.
- Allows duplicate ID's.
- Allows selection of items to be entered.
- Unlimited category names.

Only $24.95

Tax Computation

A program with intelligence built-in!

Tax Computation is easy to use and leads you question by question through the tax forms. At times, the program chooses necessary forms by evaluation of your situation. The tax is figured in the most beneficial way for the user and many overlooked deductions are discussed.

All tax situations are accepted. The folowing forms are completed in detail: 1040, itemized deductions, moving expenses, income averaging, sale of assets, credit for child care, credit for the elderly, sale of residence, minimum tax. (This includes Schedules A, B, C, G, R, RP, SE, and W, along with forms 1040 and 2210. The program will print out all of these forms except the 1040.)

To use **Tax Computation** , you need only to answer questions "Y" or "N", or enter a number. A calculator has been built into the program to assist you at any time. Simple enough to be fun!

$29.95*

* Each program contains a coupon for one additional yearly update.

Aquarian Software
P.O. Box 22184
Portland, OR 97222

VISA

MasterCard

To Order, Call: (503) 654–2641
VISA and MasterCard Accepted
Add $3.00 Shipping and Handling Per Order
Dealer Inquiries Welcome!

FOR COMMODORE 128 AND C-64 OWNERS ONLY:

BLITZ!™

NOW SHOWING AT SKYLES ELECTRIC WORKS

If your programs are slow, BLITZ!™ them

It's Spectacular
Bob has discovered a spectacular compiler for the **Commodore 64** and the **Commodore 128** that he calls ***BLITZ!***

It's Fast
BLITZ! is faster than *PET SPEED*, faster than any other Commodore compiler that has come down the pike. Your ***BLITZ!***-compiled program will run from *five to 20 times* faster than it did before you blitzed it.

It Translates
This disk program translates your slow BASIC programs into a much, much faster code. The ***BLITZ!*** compiler significantly improves the performance of your BASIC routines. It reads the entire program, reduces that program's size by deciding which operations need to only run once, interprets the operations, and then re-writes the program into its own special P-code.

It's Protective
For more advanced programmers, the ***BLITZ!*** compiler offers another benefit besides speed. It provides an almost infinite number of ways to add protection to your programs, because a compiled program is not readable. So security is inherent in the re-writing!

C-64 or C-128

It's a Treasure
Using this compiler, you can now create a string of BASIC programs such that one automatically loads the next. You can also pass information from one program to another. You will find the ***BLITZ!*** compiler a treasured tool in your programming kit.

It's Popular
Reviewers and users have heaped the following praise on the ***BLITZ!***: "The ***BLITZ*** basic compiler is a dream come true for BASIC programmers." Compute!'s Gazette Jan 1985 "worth its weight in gold." TPUG Mar. 1985. "Wonderful" "Fantastic" "I can't imagine programming without it" User comments. It is even more popular with professional programmers. Many commercial programs now say "***BLITZ!***" when they are listed. The ultimate accolade for ***BLITZ!***.

		FALL SALE
BLITZ! C-128, Disk	**$129.00**	**99.95***
BLITZ! C-64, Disk	**99.00**	**49.95***

TaxWare™ now available for Commodore 128

It's Available
TaxWare, the most comprehensive, easy to use, all year around record keeping and tax preparation system available for the **Commodore 128**. Better yet, both the improved **C-64** and **C-128** versions of this popular package are available in one comprehensive package.

It's Faster
Both versions of **TaxWare** have been speeded up using ***BLITZ 64*** and ***BLITZ! 128*** compilers. To the best of our knowledge **TaxWare** is the fastest **C-64** and **C-128** tax preparation system available anywhere.

C-64 or C-128

It's Comprehensive
TaxWare handles itemized deductions, income averaging, dividends, stocks, self-employment, rents, royalties, childcare, marriage deductions and much, much more. **TaxWare** includes forms 1040, 2442, and Schedules A, B, C, D, E, G, and W.

TaxWare stores and calculates all in one program, eliminating the need for separate database programs to store some tax items or forms.

It's Easy
HELP SCREENS are available at the touch of a button from anywhere within the **TaxWare** program. At the touch of a button, many forms are printed out in I.R.S. approved format, for direct submission. We can't make the payment any easier, but the preparation couldn't be easier with **TaxWare**.

It's Available Now
TaxWare is available now from Skyles Electric Works or your favorite local dealer. Call us at **1-800-227-9998** or **1-415-965-1735** and we will rush a **TaxWare** to you by return mail.

	TAX SALE
TaxWare, C-64 or C-128, 1541 or 1571	**$49.95***

So many cartridges, so little space . . .

Skyles Electric Works to the rescue, with our **2+1**™ and **4+1**™ expansion boards for the C-64. Briefly the **2+1** gives you 2 vertical and 1 horizontal fully switchable cartridge ports. The **4+1** continues the tradition with 4 vertical and 1 horizontal cartridge ports. See the inside front cover for more details.

		FALL SALE
Skyles 2+1 Expansion Bd. C-64	**$49.95**	**39.95***
Skyles 4+1 Expansion Bd. C-64	**$89.95**	**69.95***

*There is an additional $4.50 U.S. and Canada, $15.00 Europe and Asia, shipping charge per order. California residents add sales tax.

Skyles Catalogue Page 3

From Skyles Electric Works, the oldest and largest professionals in the business.

This is just a few of the 200+ bargains from the newest and biggest Skyles catalog, hot off the press.

We know you'll want this page, in its full splendor, and the other pages overflowing with over 200 bargains in peripherals, software, and books that will make your Commodore 128 or C-64 computer even nicer to live with.

So, if we missed sending you your very own copy within the last few weeks, call us at 1-800/227-9998, unless you live in California, in which case call 1-415/965-1735.

Skyles Electric Works
231E South Whisman Road
Mountain View, CA 94041
(415) 965-1735

THE GUIDE TO COMPUTER LIVING

4 **RND (0) Notes:**

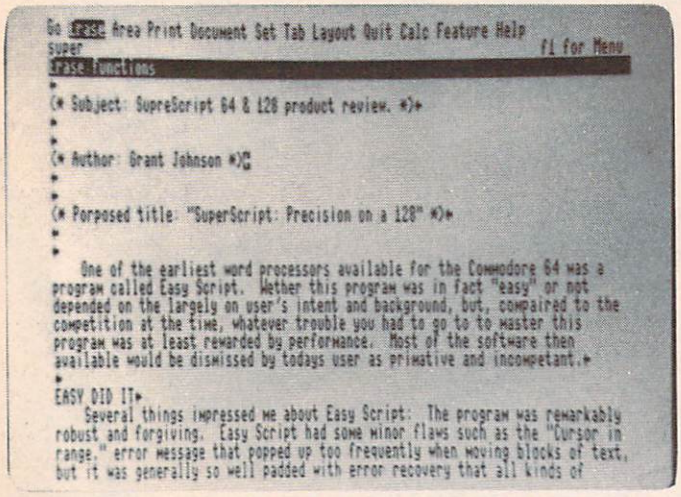
by Randy Chase

The latest news on Amiga price reductions, and a look at Commodore's questionable financial situation.

8 **To The Editor:**

9 **SuperScript 128**

by Grant Johnson



Precision Software's top-of-the-line word processor is easy to learn, quick to use, and integrates with a powerful data base.

18 **Fleet System II**

by Mindy Skelton

Mindy looks at Professional Software's first entry into the world of 128 word processing. A familiar command structure combined with a 75,000 word spelling checker makes this one a "sleeper."

21 **PaperClip**

by Randy Chase

Long the leader in sales for the 64, PaperClip is now available for the Commodore 128. We look at the newest features, and review some of the older ones as well.

25 **Shopping Advice . . .**

by Randy Chase

A few words of caution for the novice shopping for his or her first word processor; words that could save you both money and frustration.

26 **Elite**

by Mindy Skelton

Review of a swashbuckling import from England — an expansive space adventure that uses one of the most unusual software protection "contraptions" on the market.

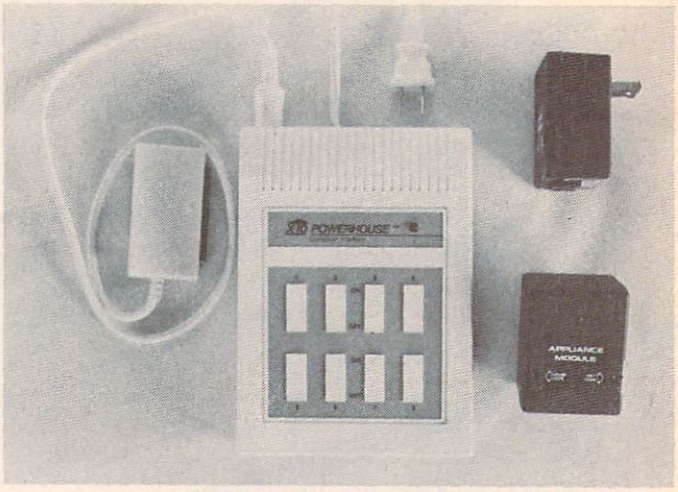
30 **Bud Izzit Art School**

by Eddie Johnson

This month's lesson explores screen animation through string manipulation. Ever think of RIGHT$, LEFT$ and MID$ as graphic commands?

32 **X-TEN Powerhouse**

by Grant Johnson



Now your house can become the biggest computer peripheral in the neighborhood. Electronic home control at an affordable price, and it doesn't even tie up your computer.

The Guide To Computer Living

3808 S.E. Licyntra Ct.
Portland, OR 97222
(503) 654-5603

The Guide is an independent monthly publication serving Commodore computer owners. The views expressed in *The Guide* are those of the individual writers and do not necessarily reflect the views of *The Guide*, its staff, or advertisers. The acceptance of an ad does not necessarily constitute an endorsement of a product. *The Guide* reserves the right to determine the acceptability of any advertising submitted.

Letters to the editor are not only welcomed, but encouraged, and will be printed as space permits.

Limited use of material contained in *The Guide* may be allowed by user group newsletters and other publications, but *only* with the prior written consent of the publisher. *The Guide* is a copyrighted publication, and any unauthorized distribution or reproduction, in part or in its entirety, is strictly prohibited by law.

PET, CBM, VIC-20 and Commodore 64 are trademarks of Commodore Business Machines, Inc.

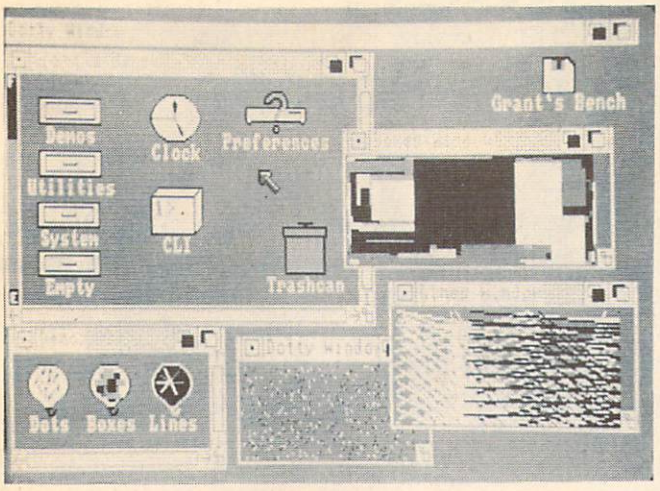
All material copyrighted (C) 1985 by Aquarian Communications, Inc., unless otherwise indicated.

The Guide is published monthly (and is available by subscription at the following rates: 1 year — $18.00, 2 years — $35.00, 3 years — $48.00) by Aquarian Communications, Inc., 3808 S.E. Licyntra Court, Portland, Oregon 97222. Application to mail at Second Class is pending at Portland, Oregon. POSTMASTER: Please send address changes to *The Guide*, 3808 S.E. Licyntra Court, Portland, Oregon 97222.

TABLE OF CONTENTS

May 1986

38 **Amiga: Window on the Future**
by Grant Johnson



Come along as Grant reports the sensation of holding half a million bytes in the palm of your hand.

46 **The Versatility of The Amiga**
by Wesley James

Multi-tasking and multi-processing on the Amiga. What do they mean, what will they do, and who needs them?

50 **Computer Widow's Compendium**
by Lyn Chase

The Computer Widow shares her unique explanation of POKEing around computer memory, and PEEKing into the world of ASCII.

The cover art, "<<E>> and Me", was created by Jon Gourd with **ComputerEyes**, then colored with **Doodle**. The image of Ellen Kaufman was then superimposed on the glasses.

The Guide features high quality original artwork on the cover each month. All artists are encouraged to submit their computer artwork for consideration. The only restriction is that the art must have been created using a Commodore computer. This could be your chance to move that masterpiece from the screen on your monitor to the newsstands of America! And make a few dollars in the process.

Please submit all artwork on disk, with a cover letter describing the graphics package used to create it. It will be photographed from the screen, so screen dump capability is *not* a requirement.

53 **Pascal's Triangle**
by Carmen Artino

What's in an integer? Find out as Carmen covers factoring in this month's Pascal feature.

56 **...I Don't Speak Hexidecimal**
by Shelly Roberts

Shelly's computer goes to work with her, much to the amusement and confusion of her co-workers. A sampling of the comments and replies included.

58 **Little Computer People**
by Shelly Roberts

Activision offers a magical window into the world of little computer people, those delighfully small folks who've homesteaded inside your 64.

60 **80 Columns on 128 PC**
by Bill Pytlovany

The mysteries of working with the 80 column mode on the commodore 128 are explaind by Bill, with enough detailed information to get you started.

63 **Potpourri**
by Various Staff Writers

Capsulized reviews of a variety of new releases, ranging from Accolade's Law of The West to Lance Haffner's latest, a college basketball simulation.

66 **Dr. Curryfavor's Code Game**
by Dr. Petrie Curryfavor

The good doctor takes us into the underworld of mystery and cryptography in his first appearance in The Guide. Complete with program listings for the 64 and VIC-20.

72 **How To Type In Programs**

COMING NEXT MONTH . . .

FLEXIDRAW'S LIGHT PEN & MULTIPLAN ON THE 128

RND (0) Notes:

Rumor Control Center:

Amiga Prices & Financial Reports

by Randy Chase

The biggest piece of news I have to pass along this month will most likely be old news by the time you read this. The long-rumored price reduction on the Amiga is supposedly scheduled for mid April. It appears that the price, including 512K of memory, will be dropping to under $1000, which in effect translates to a $500 discount from current pricing. That is $795 without the extra memory. The combination of a more competitive pricing structure and an increasing number of software titles being released should accelerate the Amiga's penetration into the higher end of the home computer market.

[Last Minute Note: Just prior to going to press the Amiga price reduction became a reality. How most dealers are handling the promotion is that when you buy the Amiga, you get the monitor free. Check your local dealer for just how the new pricing structure is being handled. As usual, with Commodore, there does seem to be some confusion; but the bottom line is that the Amiga just became a whole lot more affordable!]

Amiga sales seem to have reached a temporary plateau. Most of the hard core computer junkies that just *had* to be the first on their block to actually own an Amiga have already obtained them, as well as the people who had an immediate need for the state-of-the-art graphic capabilities of the machine.

That leaves many average buyers, be they active, evolving home computerists, or the businessman looking for a machine that can fit his budget and at the same time offer the power and versatility to solve real-world business problems, who are still waiting for a good reason to buy. For some reason it always seems that price *is* a factor in the real world, doesn't it?

It's frustrating to watch Commodore stumble forward with a product that so clearly overshadows anything on the market, regardless of price. And yet, they seem to be groping in the dark, hoping to find the light switch that will enlighten them and show them just what to do with this most amazing of machines. The trade publications are quick to mention that while the Amiga is selling at a respectable pace, it is enjoying acceptance that is at the very bottom end of the projected range. What they don't seem to mention is the apparent fact that the Amiga *is* selling in spite of Commodore's lack of a solid and active marketing plan, rather than as a result of it. Just think what the sales figures might be if Commodore were showing just a fraction of the agressiveness displayed by Jack Tramiel with his Atari 520 ST!

What's that? You say it's easy for me to sit here at my computer, with Dire Straits playing against the backdrop of the early morning darkness, and criticize Commodore's attempts at marketing the Amiga? Well, I guess that's why I'm a writer. I've never been bashful about saying what seems obvious to me at the time, even at the risk of sometimes sounding foolish a few months later. And since I'm already standing here on my soap box, I might as well continue and offer my own opinions on how the Amiga *should* be marketed.

The one thing that Commodore has been very clear and consistent about is their desire to promote the Amiga as a small business system rather than a home computer. They obviously have their eye on the *PC* customer instead of the *personal* computerist. Their blatant lack of consideration for their existing customer base (which, I might add, dwarfs all competitors' combined in the sheer numbers of customers!) is a gross and unforgivable mistake. They, if they had their druthers, would even prefer that people

like me who write about Commodore computers didn't talk about the Amiga. The attitude seems to be one of guilt by association. If they sell Amigas to people like you and me, who have already shown our support of their product line with our dollars, it will somehow degrade the Amiga to "just another toy store computer" status.

I can appreciate their apprehensions about wanting the Amiga to be seen as something beyond a Toys R Us commodity, but at the same time I think they are overlooking some very basic concepts. I'll be the first to acknowledge the potentials of the Amiga in the business environment, but I'd also like to point out that it's not the hardware, but rather the software, that makes any given computer a "business" machine rather than a "home" computer.

Commodore can talk until the cows come home about the Amiga's vitality as a small business system, but until the software is sitting on the store shelves that will make the rituals of doing business easier, it's still just a home computer. Now, it just might be the most amazing and powerful computer ever offered at a price that the average person could aspire to purchase, but if they persist in touting it as a "business" system and the software isn't there, it could prove to be the next Mindset, simply another technological wonder that will make a great computer trivia question in a few years.

As a confessed sports junkie (even before I discovered computers) I often regress and draw analogies from the sporting world to make my computer points. Its an old adage in coaching circles that it's a sounder strategy to play to your own strengths rather than focus too heavily on your opponent's weaknesses. More simply stated, it's better to concentrate on doing what you do best instead of worrying about what your competition might do poorly.

Commodore is in a unique position in this young and evolving industry. They are sitting on top of the home computer heap, primarily due to the staggering domination they enjoyed while Tramiel was at the helm. In their attempt to improve their image within the industry and to penetrate into the business market, however, they are turning their back on the market niche which they practically own.

When the software now in development begins to appear at the retail level, that will entice the business market into exploring the Amiga, the machine will find a comfortable niche in that upper echelon of the market. Meanwhile, though, Commodore can't afford to sit with their collective heads in the sand waiting for the business world to come knocking at their door. It would make more sense to agressively play to their strength in the short run. They have the history of offering the most home computer for the consumer's dollar, and suddenly they are talking quality over price, and being out *Commodored* by Atari. With the 1040 ST now available (and with a price tag under $1000) Commodore is going to have to take a more agressive marketing posture.

The ad campaign has failed to define an image of the machine. Many consumers are still unsure just who is supposed to be buying the Amiga. Commodore can't afford to rely on the press to establish a market niche for the Amiga, especially when their relationship with the press that supports them is as shakey as it's ever been. We hope that the price reduction will mark the beginning of a more agressive tack by Commodore. How about promoting the Amiga as the first home computer so powerful that you'll want to take it to work with you?

I decided last week that it was time to convert our accounting system from the 64 to the Amiga, only to discover that the only accounting package currently on the market for the Amiga, **Rags To Riches**, isn't worth considering (especially at the price!). In all candor, I think the B.E.S.T. software for the 64 is more versatile and far better designed, even with the limitations placed on it by the 1541 disk drive. Until there are well-designed and powerful software packages available, it seems to me that Commodore is wasting their breath trying to tap the PC marketplace.

Lest this sounds like I've soured on the Amiga, let me back up for a minute and restate that I *do* feel that in the long run, the Amiga is going to offer the small businessman more computer power than he ever dreamed he could afford. I have seen demos and prototypes of many of the products in development for the Amiga, and some are revolutionary enough to stagger the imagination. Most of the very sophisticated packages, however, are taking more time than anticipated in development. Given time, the software industry will sell the Amiga to the business

world. My point is that Commodore shouldn't be sitting and waiting. They should be actively seeking homes for the Amiga *now*.

The Guide will continue to expand our coverage of the Amiga. This is a machine too powerful and revolutionary to not write about. And it seems that everyone is asking about it, even people who aren't interested in computers are now realizing that this thing called an Amiga is something different and special. Rest assured, however, that in future months we will be expanding the size of *The Guide* to accommodate this additional coverage. We don't have any plans to cover the Amiga at the expense of the 64 and 128. Instead, we'll continue to expand in both size and staff to accommodate this latest member of the Commodore family.

There's one other topic that needs addressed this month. It's hard to make it through a single day without someone asking me if I think Commodore *is* really going bankrupt. To prevent you from lying awake at night fretting over the prospect of becoming a computer orphan, let me offer you some reassurance.

As I write this, I have the figures from the last quarter of 1985 that the various trade publications all reported — the same reports which have lead to much of this silly speculation about the demise of Commodore. I've been hearing from one person or another that "knows" since the day before I bought my first 64 that Commodore was on their way down the drain.

The first person who told me that Commodore wouldn't survive until the end of the year was an Apple salesman on October 17th, 1982. (I know the date because I dug out my receipt dated the next day for my $595 Commodore 64.) He carefully explained to me that "everyone" knew that it was only a matter of weeks before Commodore would be closing their doors, and wouldn't I really rather consider a *real* computer.

Well, here we are three and a half years and close to 6,000,000 64's later, and these experts who "know" are still writing obituaries for Commodore. When I'm in a generous mood I attribute their tunnel vision to envy; when I'm in a less magnanimous mood I assume it's just sheer idiocy. After all, if some of these industry experts where half as smart as they seem to think they were, they would have long ago retired from their shrewd investments in Osborne stock.

But anyway, let's leave these doomsayers out of this conversation and get back to that financial report that is the latest basis for doom and gloom in the Commodore world. Before I offer my own interpretation of the financial statement, I'll qualify my remarks by explaining that I've never been a real whiz at accounting (as my accountant will surely attest). In fact, after two weeks in an accounting class in college my teacher asked me what I had learned so far. "I now know why the good Lord invented the computer," I replied. "Someone had to do something to keep me from having to learn whether the debits or credits went on the left."

Keeping in mind how little of the accounting process I understand in general — especially multi-million dollar corporate accounting — I'll offer my own understanding of the figures. Commodore reported a $53.2 million dollar loss for the quarter ending December 31. Don't sound none to healthy, does it? But let's look a little farther down the list.

I won't pretend to understand the juggling and maneuvering involved in the world of corporate write-offs, but I do understand at least vaguely some of the very rudimentary and crudest economic concepts involved in operating a business. The bottom line is to have people give you more money than you have to give to other

FIND OUT WHY

We were the country's most successful regional Commodore publication

Now Available Nationally!!

For more information call:

(503) 654 - 5603

people. If you do that, it's a fairly good sign that you're at least on the right track. If you can do that more than you don't, the odds are you have a fair chance of continuing on. Unfortunately, the world gets more complicated after that.

When you continually collect more money that you pass along to others you experience something called a profit, and that's when you call in the tax attorneys to help you explain to your Uncle Sam that you really don't have that extra money you received (even though your records may show that you didn't spend it, give it away, or burn it). Of course, the goal of all of this is to keep your lecherous old uncle from claiming his inherant share in this property. Maybe that's oversimplification, but for the moment, let's take a look at Commodore's questionable financial statement from that point of view.

The two major items to consider are the reported revenues for the quarter in question. $339.2 million dollars! Not too bad. (If sustained for four quarters, that translates to $1.35 billion dollars a year!) That is offset by the fact that they showed a cash flow profit of *only* $1.05 million dollars for the quarter (meaning that they spent about $338.1 million during the three month period). With revenues on that level, it seems silly to think about Commodore closing up shop and going away. From the bankers perspective, that billion dollar annual cash flow means you can afford to look the other way when they miss a payment or two on their loans.

The loss of $53.2 million dollars for the quarter comes into the picture when our friends in West Chester start moving into that murky (and almost mystical) realm of high finance. First you write off an assembly plant that you closed in England. And then you write off a closed semiconductor plant in California. Oh, and yes, there are those few hundred thousand Plus/4's stored in some almost forgotten corner of a warehouse that you might want to move from the asset column to a tax deductible expense. Suddenly, through the wonderfully adroit pencil work by the accounting department, all you've to offer your drooling Uncle is his share of a $50 million dollar loss.

I just can't see any reason to worry about many people at Commodore having to go without dinner. As long as they have more dollars coming in the door than they have going out, it would seem that people would have something more relevant to waste their worry on. Predicting the death of Commodore has been the favorite past-time of the computer industry for as long as I've owned a computer. While it's often annoying, it's also so repetitious that it's mostly just boring.

In closing, there's another question that's asked almost as frequently as the ones about Commodore's financial health. "Have you seen the Shadow yet?" It seems hard to avoid the number of people asking. In answer, no I haven't. But my 2½-year-old son, Jonathan, discovered *his* the other day, and is still eager to tell the world about it, should anyone care to listen . . .

■

The Guide Staff

Publisher & Managing Editor
Randy Chase)*

Associate Editors
Grant Johnson
Bill Wallan

Contributing Editor
Mindy Skelton

Staff Artists
Eddie Johnson

Photographs
Grant Johnson

Production
Anita Johnson
Guion Mawr
Bill Wallan

Advertising Sales
Bronwen Fitzhugh
Jim Losk

Staff Writers
Lyn Chase
Dr. Petrie Curryfavor
Bud Izzit
Eddie Johnson
John R. Olsen, Jr.
Bob Richardson
Shelly Roberts

Contributors
Carmen Artino
Wesley James
Valerie Jean Kramer
Bill Pytlovany
Robert J. Sodaro
Matthew Stern

Distributed exclusively by
Publishers Distributing Corp.
P.O. Box 8991
Malibu, CA 90265
(213) 456-0030

To The Editor:

Randy,

At last you have dispelled the rumor that *The Guide* had gone belly-up (or worse yet, gone nation-wide). As a regional publication you have been able to give faithful readers reasonably quick response to rumors, trends, and events. You have also given us a reasonable degree of technical substance, though there has been a trend lately toward "cute-sy" by-lined columns. "Cute-sy" we can get quicker from other sources at much lower prices.

Wouldn't it be nice if Grant Johnson could give us a detailed description (nnot a program listing) of how to approach a bubble sort in ML on the C-128? This problem involves both the 128's structure of arrays and some practical use of banking RAM.

Wouldn't it be nice if Jim Russell could give us a practical technique for modifying the Xetec Super Graphics interface to draw power from the printer. Without some type of gimmick, it is necessary to unplug things in order to use hi-speed copy programs. It works fine with the CARD? interface, why not the Xetec and maybe some others?

Wouldn't it be nice if Grant Johnson could give us some hints as to how to approach programming the C-128 in Z-80 mode without resorting to machine language.

Wouldn't it be nice if compiler-collector John Olsen gave us analysis of some of the (hopefully) new C-128 BASIC compilers?

Wouldn't it be nice if your resident $-pert in "no-speaka-da-$" really $-erted herself beyond all $-pectations and became an $-pert at $?

Hal Scheidt Bremerton, Washington

Dear Randy,

April 1986 — what a great issue! The "RND (0) Notes" editorial gave me the first clear picture of the Winter Consumer Electronics Show. I have read CES reviews in half a dozen other computer magazines; each has been somewhere between flippant and satirical. Yours was the first factual report, with basic comments and predictions of what this year's event portends.

Jim Russell's "The Inside Story" was so loaded with practical maintenance information that I have posted a copy right on my work station. Shelly Roberts pointed a revealing finger at some of my friends and me. I really laughed. And Mindy Skelton — two superb articles in one issue — how lucky we readers are. Her in-depth views of the pending problem of BBS regulations was unbiased and of utmost importance to all. Her approach to the C-128, in "Beginner's Corner," is well worth reading, even by old C-64 users. She made me want to rush right out and buy one for myself. I eagerly look forward to the rest of the introduction to the C-128 in future issues of *The Guide*.

Thanks for such a wonderful magazine. If future issues continue to live up to the standards set here, there is no doubt in my mind that *The Guide* is destined to become the prime publication for Commodore computer news.

Robert J. Boroughf Reno, Nevada

I N T R O D U C I N G

SUPER KIT/1541

BY MARTY FRANZ & JOE PETER

SINGLE/DUAL NORMAL COPIER
Copies a disk with no errors in 32.68 seconds. dual version has graphics & music.

SINGLE/DUAL NIBBLE COPIER
Nibble Copies a disk in 34.92 seconds. dual version has graphics & music.

SINGLE/DUAL FILE COPIER
6 times normal DOS speed. Includes multi-copy, multi-scratch, view/edit BAM, & NEW SUPER DOS MODE.

TRACK & SECTOR EDITOR
Full editing of t&s in hex, dec, ascii, bin. Includes monitor/disassembler with printout commands.

GCR EDITOR
Yes disk fans, a full blown sector by sector or track by track GCR Editor. Includes Bit Density Scan.

SUPER DOS I
Fast boot for SUPER DOS. 150 blks in 10.12 seconds.

SUPER DOS II
Screen on and still loads 150 in 14.87 seconds.

SUPER NIBBLER
Quite frankly, if it can be copied on a 1541 this will do it! Including Abacus, Timeworks, Accolayde, Epyx, Acti-vision, Electronic Arts.

$29.95

PLUS $3.00 SHIPPING/HANDLING CHARGE — $5.00 C.O.D. CHARGE

PRISM SOFTWARE

401 LAKE AIR DR., SUITE D • WACO, TEXAS 76710
ORDERS (817) 757-4031 • TECH (817) 751-0200
MASTERCARD & VISA ACCEPTED

THE POWER OF WORD PROCESSING

(Superheroes Under Glass)

by Grant Johnson

Word processor. If your buzz-word alarm goes off when you hear that phrase you've lots of company. Sounds like a librarian's version of the motorized appliance Julia Child uses on TV, right? A fast, convenient way to mix your metaphors or split whole cups of infinitives at a time . . . Truth is, the essential idea behind word processing is so simple people often fail to see how it could be of any value.

Just as Julia, with only a wisk or knife, can do anything her processor can, all you really need to process words is a pencil and tablet. Newcomers are frequently baffled by why anyone would want to complicate pencil work with all that computer equipment. I'll admit that the first step to working in the electronic medium does require additional effort, but working words at that level is an effective and liberating experience.

The initiation you receive on your way to this plane of experience depends largly on the word processing program you first use — a topic better addressed in the product reviews that follow. But we can look ahead at some of the facilities and assistance you can expect to find in a typical program.

People can use the assistance. Nature is a softly-defined thing; it seems to play the averages. To cope with a world of variation and gradation, we have to "hang loose"; adapt. After a point, the efficiency of specialization becomes an invitation to extinction. Rotate the parts on the conveyor belt two degrees and many robots become as useless as junk.

Throw a ball in the air and catch it. You plan a proposed trajectory, launch the projectile, track it with your eyes, plot an intercept course and execute the interception — all the while refining your calculations with tracking updates from both hand and eye. Countless variables intrude in this process. Muscle temperature, blood sugar, wind, guessing the mass of the ball — the list is endless. A successful catch is a product of successive approximation. Lose the ball in the sun, and you very well might catch it with your face.

Language, a part of nature itself, is as full of gradation as anything else, and yet it can be used with precision. Professional writers have long known that the secret of good writing is in *re*-writing. The comic image of a writer in trouble is a room ankle deep in crumpled discards from the typewriter. We laugh because we have suffered enough with high school book reports and the like to recognize wit's-end exasperation when we see it.

Remember how a moment of fantasy gave temporary relief when the written report again ground to a frustrating halt? Return with me now to those miserable days of yesteryear, and we will conjure up a super-hero to vanquish the dreaded due paper.

Mere mortals can scarcely hold a single fully-formed thought in mind long enough to write it down. Sentences that begin in the plural sometimes end in the singular. But our super-hero will have such powers of concentration that he can easily hold ten or more (typewritten size) pages clearly in mind at once, phosphorescent words on a great glass sheet.

He will be able to reach out and change any character or word; add or erase a phrase or sentence. He will be able to move or delete paragraphs or whole pages. For longer documents, he will have perfect recall, and will be able to use parts of things previously written to complete the job at hand. Reshaping his work almost as quickly as he can think. The approx-

imations coming ever closer to the goals set.

While we're dreaming, we might as well give our super-hero the power to check every single word for perfect spelling (in seconds). And, as long as he is looking anyway, to count the number of words, and give us a complete list of words used, along with the number of times each word was used. (Gee, did I really use the word "really" eleven times in four pages?)

Content complete, super-hero will put words to paper at no less than ten times the speed of the fastest typist — all with perfect left *and* right margins, with the pages correctly numbered, titled and much more.

But enough of dreaming. You, too, can shed your Clark Kent reticence with words. Switch on your computer, insert a word processor disk and load. You don't even need a phone booth.

The transformation you experience will probably surprise you. Once otherwise mild-mannered folks have had a taste of word processing, they find themselves sending off letters that never used to get written. They discover pleasure in putting a little polish on everyday memos. Even the most shy of them feels a sense of growth and pride as the quality of the things they have to write or say (most speeches *are* written) improve.

Much more than productivity and polish is effected. People find that word processors can even change the creative process itself. At one extreme you may write an outline and then expand each line to paragraph or chapter — content flowing from structure. At the other, you may simply write down thoughts *as they occur to you*, and arrange them into finished form later — structure from content.

Interested in putting one of these "super-heroes" to work for you? In the pages that follow, you will find reviews of three new word processors for the Commodore 128. As it turns out, all three also come in versions for the Commodore 64 as well. So don't be shy. We'll make the introductions . . .

Grant

SuperScript

Precision Comes to the 128

by Grant Johnson

One of the earliest word processors available for the Commodore 64 was a program called Easy Script. Whether this program was in fact "easy" or not depended largely on the user's intent and background, but, compared to the competition at the time, whatever trouble you had to go to to master this program was at least rewarded by performance. Most of the software then available would be dismissed by today's user as primitive and incompetent.

Easy Did It

Several things impressed me about Easy Script: The program was remarkably robust and forgiving. Easy Script had some minor flaws, such as the "Cursor in range" error message that popped up too frequently when moving blocks of text, but it was generally so well padded with error recovery that all kinds of nonsense could be committed on the keyboard without the program crashing. Given half a chance, the thing would often find a graceful way out of a mess. Such a reliable partner encourages experimentation and many users found themselves doing great things with Easy Script. I know of several people who took the '64 seriously for the first time after seeing it running Easy Script.

Good Repute

Although Easy Script was marketed in this country by Commodore, it was created by Simon Tranmer of Precision Software Ltd., an English company (foreign programmers generally seem to take our low-cost computers more seriously than their American counterparts do). Since then, Precision has marketed a series of first-class products in this country under its own name. Aside from the workable but awkward Easy Spell (a spelling checker for Easy Script that appeared to have been an after-thought), Precision's products have earned an enviable reputation for reliability and excellence of design.

The Products

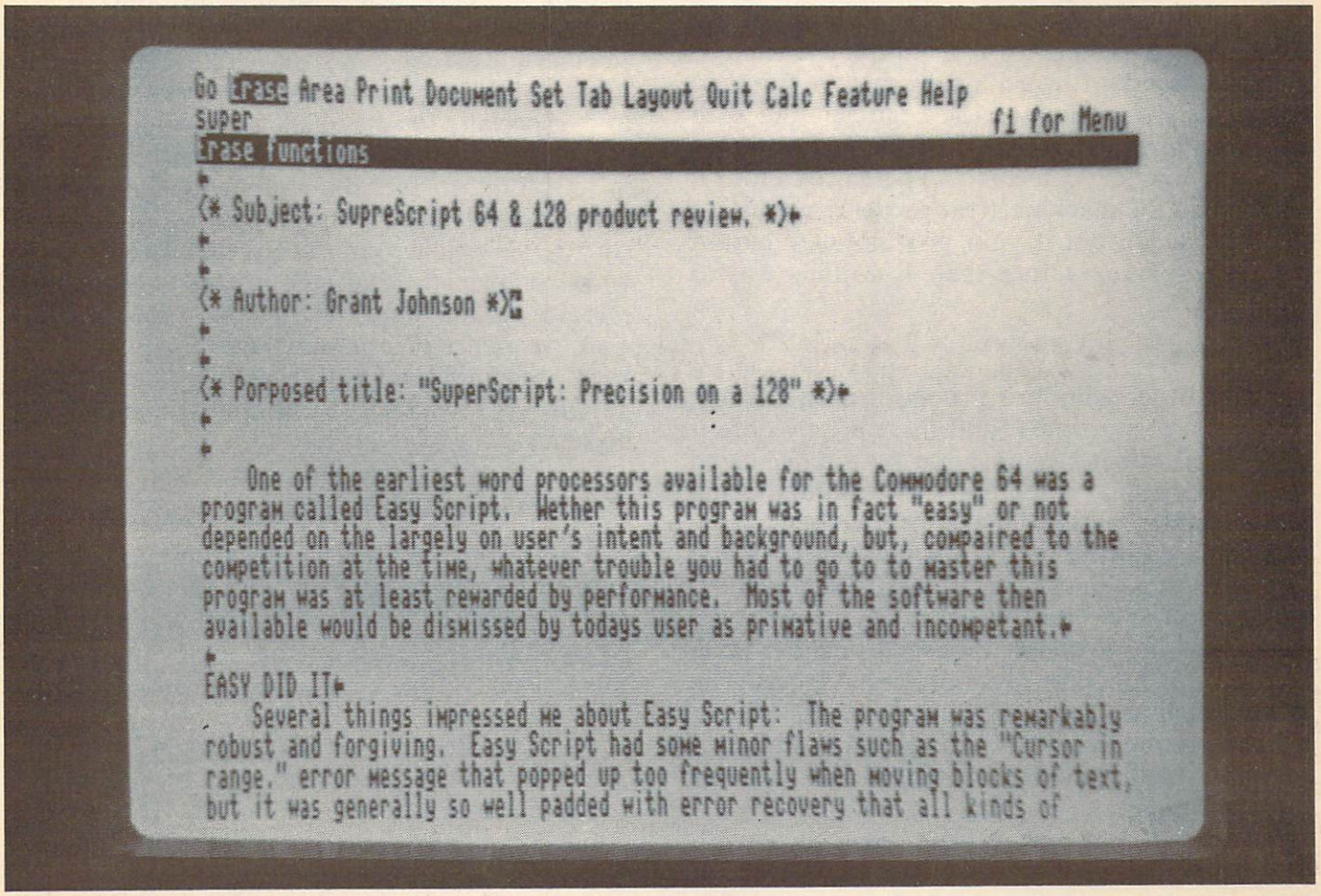
SuperScript is the name used on Percision's latest word processors. It comes as a single copy-protected disk and a small-format (8.5 by 6 inch) manual of about 240 pages. It carries a list price of $79.95 (but watch for discounts).

Hardware Considerations

To run SuperScript 128 you will need a 128 PC. The disk that comes with the package is two-sided, but *is* in 1541 format (you turn the disk over to read the back side). That means that if you have a 128 but are using a your old drive you can still use SuperScript 128. On the other hand, this program can make good use of the fast(er) 1571 drive, a pair of single drives or even two dual drives.

Likewise, if you are using a TV or Composit Monitor (1701 or 1702) you can still use SuperScript 128. It has both a 40- and 80-column mode. Be advised that since the 40-column screen uses the VIC chip you will be limited to the one megahertz speed (same as the '64). If an 80-column monitor is not in your budget, don't temp yourself by trying someone else's. Even a short exposure will spoil you forever.

While you don't need a printer, if you have one it will undoubtedly work with this program.



Edit screen (where you do your writing) with main menu at top. The Erase sub-menu has been highlighted, and is captioned in line below. Note authentic typos in text.

SuperScript can be adapted to work with any interface and/or printer I have ever seen connected to Commodore equipment. "Escape codes" are a piece of cake, and SuperScript will even do secondary addressing and RS-232.

Excellence of design doesn't just mean that a piece of software works, though that is a necessary part of it. Much more subtle but just as important, is the way it adapts to the user's changing needs and skills. No matter how powerful a program is, if it is difficult to use then the job it is designed to do will be difficult as well. SuperScript is a fine example of design done right.

Controlling The Action

There are two major schools of design, at least when it comes to word processors. A fairly recent approach is through graphics. You are shown a video version of what you are producing. Characters are typed on a keyboard, and they are then manipulated with a mouse. At present word processors for the MacIntosh are the most popular examples of the graphic sort.

This kind of word processing is fun and enormously appealing to the beginner, but with its focus on the *appearance* of the end product, quality of content can suffer. These programs require a lot of machine (read expensive) just to function at all, but if your goal is fancy output (including pictures), then there is no finer way to go.

Functional?

The other school of processor design is text or keyboard controlled, and there are two branches. One branch was inspired by the dedicated word processing machines now rapidly being buried under an avalanche of personal computers. In addition to the normal alphanumeric keys, these machines had a zillion specially labeled function keys, but the general purpose computers that are replacing them have neither large mumbers of function keys nor special labels. The user of such programs is forced to struggle along by memorizing the function of each key and must even use combinations of them because of their limited number.

Some of these processors even come with cardboard templates to place over the keyboard. Templates may make sense as a learning aid, but something has gone wrong when you see them with curled corners and stained from long use. (One measure of the frustration are the ads for labels that you are supposed to stick on keytops to make the keyboard usable with a particular program!)

Brief Hand

The second branch of the keyboard-controlled processors uses text characters and (sometimes) menus. A special key is pressed to tell the machine that the key strokes to come are to be interpreted as commands. For example, if an unwanted word is to be removed, the operator would press a special key such as **F1**. The computer then interprets the next character typed as not just another character, but as a command. Lower case "**e**" is typed and the computer prepares to ERASE somthing. Lower case "**w**" is next typed, and the computer erases a WORD from the screen. A sequence such as "**F1 g e**" might command the computer to go to the end of the document in memory. Note that only one or two special keys need be used to introduce nearly all command key strokes, and that the keys used to enter the actual commands are usually the first letter of the command's name. Easy to remember and, especially for the touch typist, quick to find.

SuperScript belongs most closely with this latter group; in fact the commands I used to illustrate are from it. SuperScript's control structure is very generous. There are often several ways to issue the same command — it is permissive rather than restrictive. The "**F1-Go-End**" sequence mentioned above could also have been accomplished by pressing the "CONTROL" key and "**g**". But I am getting ahead of myself.

Beginning At The Beginning

Even though SuperScript is very logical and easy to learn, the excellent manual starts with a forty-three-page tutorial. To give you a feel for its clear and thorough manner let me quote from the section "How to use the tutorials" on page one:

> The procedure is quite straightforward. You start with your computer turned OFF without a disk in the disk drive. You sit at the computer, read the tutorials and follow the instructions you're given.

Can you handle that? You might never guess, as the manual smoothly introduces you to

feature after feature, just how powerful this program is. "Powerful" programs are supposed to be hard to use, right? Not this one; the program disk even contains eight example documents to speed you along.

The manual takes a task oriented approach. You are simply shown how to accomplish some typical real world jobs. Only incidentally might you notice that the instrument you are learning to use virtually has *four* complete keyboards. I'll point them out as we get to them.

"Normal" Board

To start with, all but three of the 91 keys on 128 PC keyboard have some meaning to SuperScript. The alphabetic, numeric, special character and various shift, caps-lock and tab keys have their expected effects. Freedom of motion is important, and SuperScript is accordingly endowed. Both sets of cursor keys work, and in addition to their character right/left and line up/down functions they move the cursor from word to word in the horizontal and from paragraph to paragraph in the vertical when the Commodore logo key is depressed. Tabulation in both the horizontal and vertical are supported as well as numeric tabulation (especially useful for tables) and backward tabulation.

The INST/DEL (insert/delete) key inserts a space or deletes a character much the way it does in BASIC, but the CLR (clear)/HOME key simply moves the cursor to the top of the screen and, when shifted, moves the cursor to the beginning of the current document.

The function keys are, of course, functional. Document loading (from a directory), document previewing (a way of seeing, on the video screen, what things will look like before they are actually printed), access to the electronic dictionary and even a tabulation (for the right hand) all happen with a quick poke of the finger.

One From Column A . . .

SuperScript responds to all eight function keys, but the only one you need use to get started is **F1**. Press it and a twelve-item menu appears in the top line of the screen. The choices: Go, Erase, Area, Print, Document, Set, Tab, Layout, Quit, Calc, Feature and Help. When this memu appears on the screen, "Go" is highlighted in reverse video. The highlight may be moved to any other item on the menu with the cursor keys, and

FOR THE COMMODORE 64™, we brought you:

The Smart 64 Terminal
Sixth Sense
NOW, EXCLUSIVELY FOR THE COMMODORE 128™

SIXTH SENSE $79.95
Pull-down menus. 800-line screen memory. Automatically uses 1700/1750 RAM expansion. Supports X-Modem and CompuServe™ "B" protocol. 32 active macro keys. Macro chaining. Multiple counters, bookmarks, and user strings. This is the ultimate modem program for the serious user or for electronic mail requirements.

MICRO VT $39.95
Our full-feature VT 102 Emulator. Includes DEC VT graphics set. Automatically uses 1700/1750 RAM expansion. X-Modem protocol. A must for the VT 100 system user.

Both programs are written in machine code for fast, efficient communications, and both offer comfortable working environments which you can tailor to your preferences. They support the following modems and compatibles: 1600, 1650, 1660 (old), 1660 (new), Mitey Mo, 1670, Hayes Smartmodem, Anchor Volks 6420/6470. These programs operate exclusively in 80 columns and require RGBI output.

MICROTECHNIC SOLUTIONS, INC.
P.O. BOX 2940
NEW HAVEN, CT 06515
(203) 389-8383

the item selected with the return key. (SuperScript even displays a discription of the action each highlighted item will take if selected!) Alternatively, the first character of an item's name may be pressed regardless of the location of the highlight — "**s**" for Set, "**t**" for Tab and so on.

The highlight-and-execute method is reassuring to the inexperienced, but requires too many keystrokes for the advanced user. So most people

Getting Around

move on to the second method as soon as they have a feel for what is happening. In either case the item chosen yields a sub-menu. Select "Go" and you get a choice of: Start (of document), End (of document), Top (of screen), Bottom (of screen), Left (column), Right (column), (line) Number, Up (one screen page), Down (one screen page), Change (to second text memory) and Previous (screen line). Whichever method is used, the cursor is soon blinking in the chosen location.

There are yet more ways to get around in SuperScript. For example, SuperScript will find every location of a particular word or group of characters (either ignoring capitalization or not, as you choose). While writing this, I ask SuperScript to find the word "Jabberwocky" used in this sentence. Starting at the beginning of this article, SuperScript found it among 2500 other words in 1.76 seconds. This search activity was selected from the "Set" menu.

To give you some idea of SuperScript's scope, there are 27 sub-menus that deal with everything from text editing and printing to numeric calculation and disk activities. We might call this the "menu" board; you turn it on with the **F1** key.

Freedom And Choice

All this probably sounds daunting, but with SuperScript's menu-and-caption presentation — especially when combined with the tutorials — make controlling this program easy for the beginner. Even when you are uncertain about what you are doing, SuperScript encourages you to browse through the menus without fear. You can back out of any menu a step at a time with a touch of the RUN/STOP key or completely abort *any* proposed action. If a command has destructive potential (such as erasing a disk file) you are given an opportunity to PROCEED or ABANDON before the action is carried out. The only way SuperScript could be more considerate is with an "Un-Do" key.

"Control" Board

As you work your way through the tutorial and, later, the 156-page reference sections of the manual, you are introduced to "Control Key Alternatives". These are shortcuts; quick ways of getting things done without going near a memu. To erase a word you have just typed, you hold down the CONTROL key and press "**d**". Poof. It's gone, and no need to type "**F1 E W**" or peck away on the DELETE key. It turns out that when the CONTROL key is held down every letter key on the keyboard (as well as the "=") executes a command. These have the virtue of being very fast, but can be hard to remember. No need to paste things to your key tops, though. Just press the HELP key and most of them will be listed on the screen. Seven of these are not to be found on the help screens (they don't fit nicely on the 40-column screen). I think they should all have been listed, at least on the 80-column screen.

Having It Your Way

No designer can think of everything. Inevitably there will come a time when you will wish the program had a shortcut for some command — possibly even a command that doesn't exist. Or maybe you have to type the same word repeatedly. SuperScript allows you to "program" or set a single key equal to a sequence of keys, and that includes menu type commands. In writing this product review, I set "**s**" equal to "SuperScript". When I need that name in my text I just press the RUN/STOP key and "**s**", and the program does the rest. The ESCape key could be used instead of RUN/STOP, but it is a longer trip from the home keys.

In working with SuperScript, I keep a dictionary disk (more about which later) in disk unit nine. When I wish to check a word, I must first direct SuperScript to look at that drive and follow that with the commands that tell the program that I wish to search for a particular word. Going through the menu, I have to press nine keys even before entering the word, but the sequence is programmed onto the "**d**" key. "RUN/STOP **d**" is all I need. (While I am thinking about switching disk units, I want to complain that SuperScript gives no indication (on the status line would be nice) of which unit has been selected. I frequently forget to swap back to my work disk on unit eight before saving an update.

No real harm is done, just the awkwardness and time it takes to erase my wayward file, swap and save again.)

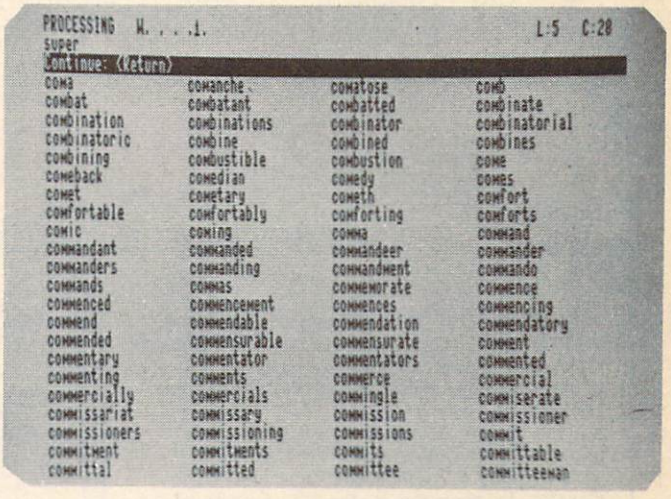
Such an arrangement is sometimes called a "macro" in the sense that the "**d**" has been enlarged (as in "macroscopic"). Nearly any key on the keyboard may be treated in this way (both upper and lower case), and up to 1K (1024) keystrokes may be "memorized" at any one time. We could call this the "macro" board. Switch it on with the RUN/STOP or ESCape keys.

These commands can be entered for temporary use, made a part of a document or even made a part of the start-up (default) file for general use. If they are not easy to use and remember, you have no one to blame but yourself.

Facilities

Needless to say SuperScript covers all of the basic word processing functions, but I can't here (not in less than 100 pages!) When you get to this level of sophistication, it is the "extras" that set one program off from another.

- SuperScript has two text buffers (work areas for your text). The primary area has room for 50,080 characters of text, and 20,080 characters for the other (about 13 and 5 single-spaced pages, respectively). These two buffers are so independent that you can work on two completely separate documents at once. Why two at once? Well, you can pull a document off the disk without interrupting work in progress. Text can be moved from one to the other making it convenient to assemble a new document with selected pieces of another. Besides, sometimes it's nice to grab a troublesome paragarph or two and take them off to a quiet corner of the machine for intensive therapy.
- Tables can be created with special tabs, and *columns* of text and numbers moved as a group (!). These commands are not recommended for mutiple column text (such as on this page), but, if you want to do your own justification, they can be made to work.
- What happens when you wish to enter or preview a document that is more than 80 columns in width? Imagine for a moment that you have a wide document, a news paper, that you wish to read, but you only have a small flashlight to do it with. You would move the beam of light from place to place as you read, right? Well computers can do the same thing. The technique is called a virtual screen. When previewing a document (video output) SuperScript allows you to "move" the screen over the document as though it were a beam of light or a window. On input SuperScript "slides" the document along as you enter your information. In this way, documents as wide as 240 characters can be seen with even a 40-column screen.
- Calculations (+ − * / %)are possible in two modes. Calculations can be performed on tables (both row and column) of text. SuperScript can handle up to 20 digits before the decimal point (even commas) and 10 after. Decimal positions are controllable, and special characters such as the dollar, pound sign, minus sign and parentheses (for negative amounts) are supported. Calcultions can also be done in an immediate mode, so you can leave your pocket calculator in the drawer. SuperScript will even place the result in your text, if you like.



While on line 5, column 28, SuperScript was ask to search its dictionary for words starting with "com ... ". The listing does not disturb work in progress.

- Disk facilities are excellent. You can load or scratch documents from an on-screen directory (printed in four columns in 80-column mode). SuperScript only uses SEQuential type files and only lists this type for such activities, but a regular directory showing all file types is also available. If you speak fluent DOS (Disk Operating System), you can send your own commands directly. Errors and return DOS messages are displayed. (One sour note here: DOS returns

a message "01, files scratched,01,00" when it successfully removes a file, but SuperScript flags this as an error.)

• The dictionary that comes with the system (that's what's on the back side of the disk) is a continual joy to me. Spelling is my nemesis, and I can use all the help I can get. The dictionary comes with 30,000 words to which you can add your own. Of its many functions, I most use the checker to go through what I have written, and search the dictionary for occasional words while I am writing. Searches can be made with ?'s for "wild cards" and/or partial words terminated with * just as in Commodore DOS. (Even *I* can find words that loosely defined!)

The checker is quick, has statistics about word usage (and more) and has two nice touches when displaying words it does not recognize (probably because I spelled them wrong). The words are presented in alphabetical order which makes supplementary book-type dictionary use easier, and the words are illuminated in the contrasting color of my choice. (By the way, all of the colors used by SuperScript are user's choice. You, too, can write purple prose.)

• In putting words on paper you will find the limit of your printer before SuperScript lets you down. Double width print, centering, justification, subscripts, underlining, italics, foreign characters, bold face, variable horizontal and vertical pitch are all just a part of the basics for SuperScript.

And beyond the basics? SuperScript will, for example, print the all of the odd numbered pages of a work on fanfold paper. After you turn the paper over, it will print the even numbered pages — all including headers, footers, page numbers (starting with the number you prefer) and do it so the odd and even pages have different offsets (right hand pages are bound on the left and left hand pages are bound on the right). And much more.

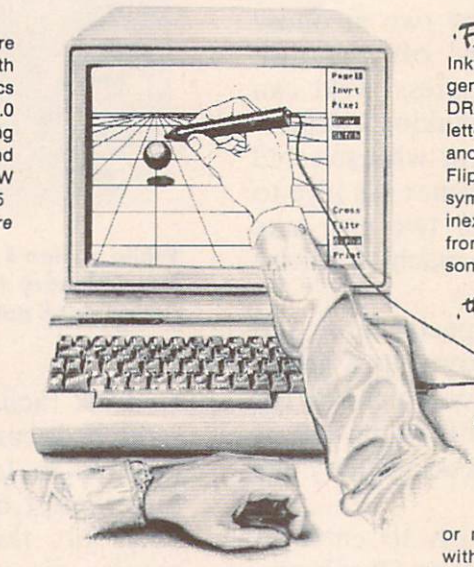
• SuperScript has a good mail-merge capacity. If you had a letter you wished to send to a large group, you could set up a file of names and addresses (and any other information you might have) in one file and the letter in another and then automatically insert those names, etc., in the letter. The third line of the second paragraph might then read, "We hope you will attend this special

EXTEND YOUR GRAPHICS REACH ...

with PENWARE PRODUCTS by Inkwell Systems

Flexidraw the light pen system for Commodore users who want easy Computer Aided Design with professional results. Whether drawing schematics or practicing your artistic talents, FLEXIDRAW 5.0 will give you over 65 graphic features including two full screens, 16 colors, sprite animation, and library of technical symbols. The FLEXIDRAW system; quality light pen, disk, and manual. $149.95
Flexidraw is endorsed by the U.S. Commodore Users Group.

the Graphics Integrator the long awaited integration program for avid graphic artists and CAD users, will not only convert other popular graphics packages to Flexidraw and back, but also gives you the ability to create your own self-running slide shows in high resolution. Hi-res to Hi-res, Hi-res to Flexidraw, Multicolor to Multicolor, the Graphics Integrator is also compatible with Word Processing programs with external file capability for integration of text and pictures. ($29.95)



Flexifont an indispensable addition to your Inkwell graphics system, gives you character generation ability at the touch of your FLEXIDRAW light pen. Choose from the 33 built in letter styles or create with your own symbol and pattern libraries. Flexifont will Copy, Paste, Flip, Rotate, Print, and Edit saved or loaded symbols. At $29.95 (sugg. retail), Flexifont is an inexpensive necessity for creation of anything from official documents and newsflyers to personal letters and formal invitations.

the Graphics Galleria a variety of clip art and artistic renditions from Flexidraw users and professional artists. The Galleria will provide you with diskette libraries of large and small drawings from fantasy images to real-life recreations. Ideal for use in newsflyers, stationery, invitations and poster work, the Graphics Galleria can be used with Flexidraw or many other graphics packages when used with the Graphics Integrator. Available this winter for $29.95

Inkwell Systems

See your local dealer or contact:
Inkwell Systems • P.O. Box 85152 MB 290 • San Diego, CA 92138
or call (619) 268-8792
Shipping and Handling $4.00, Canadian and Foreign $8.00

meeting, John, and . . . " The name "John" in this case would change with each letter. The space needed would expand for "Harvey" and shrink for "Joe".

- Among the extras in the merge department, are the ability to skip an un-needed line — say an address with three lines among a list of many that contain four. SuperScript can be selective about which parts of the merge list it uses. Matching criteria such as "CITY = New York", which would only print New York addressed letters. It can even use ? and * special characters in the same pattern-matching way that it looks up dictionary words.
- Since SuperScript uses SEQuential files, it can accept data from many other programs. I have often included spread sheets from MultiPlan in SuperScript printouts, and have even used it to put the finishing touches (words in bold, added captions, etc.) on such spread sheets.
- Yet, I have saved the best for last. SuperScript works with Precision Software's phenomenal Super*Base*. In fact they can be loaded into a 128 PC at the same time! They are so well mated that SuperBase programs (SuperBase is a relational, *programmable* data base) can take control of SuperScript.

The prospect of a database that can control and relate 15 files of information (covering an entire disk), capable of calling up any record in three *tenths* of a second, and combining that with SuperScript 128's abilities is rich fuel for the imagination.

Summary

SuperScript 128 is a general purpose word processor that, while easy to learn, has advanced features that make it of value to the professional. Placed in the home or small business, it would have to rate as a "powerhouse".

I had a review copy of Superscript 64 for many months, and did next to nothing with it. It wasn't until I was tempted by Superscript 128's 80-column screen that I was won over to Superscript. Essentially, I bypassed Superscript 64. That was my loss.

Now that I have given it an honest try, I am more impressed than ever with what can be done with the Commodore 64. I want to be very careful not to damn Superscript 64 with "faint praise" in comparing it with Superscript 128 review elsewhere in these pages. So let me begin by telling you what it's got before I tell you what it's not.

Superscript 64 has the same generous control structure as Superscript 128, and its manual is nearly the same — sans some 128 stuff. It also has nearly *all* of Superscript 128's "extras". It works with multiple disk drives, has all the dictionary functions, the merge abilities, table (columnar) text editing and calculation. The only way I could have failed to love this program was the blind prejudice of familiarity with the program I had been using.

OK, now for what it's not. Superscript 64 has only one text area of 20,000 characters (about five single-spaced pages). It has to live without 1571 double-sided drives and 80-column screens. It cannot share the same machine with Superbase, but that's about it! There can be no question as to where Superscript 128 got its fine qualities.

Superscript 64 is a remarkably good word processor for the Commodore 64.

Problems With Your Subscription?

We're happy to help you.

Contact: The GUIDE
3808 S.E. Licyntra Ct.
Portland, OR 97222

(503) 654 - 5603

Professional's Fleet System II Provides 75,000-Word Speller

by Mindy Skelton

The "sleeper" of the new crop of 64/128 word processors may well be **Fleet System II** (hereafter referred to as **FS II**), by Professional Software, Inc. (Not to be confused with **Fleet Systems III** which is for the 128 only. That one wasn't available for review by press time. We'll review it later.)

Unlike many of the software packages you see these days that trumpet, "Runs on the 64 AND the 128!!", when what they *really* mean is that they run in the 64 mode of your 128, **FS II** has provided you with two separate and distinct versions on the same disk . . . one for each mode.

The 128 version takes full advantage of your 128's capabilities . . . expanded memory, all the keys, 80-column entry (with an option for horizontal scrolling to 120 columns). What fun! Oh . . . OK. So there are a couple of drawbacks. **FS II** doesn't have all the "bells and whistles" that some of the 128-only word processors offer (no pull-down menus, no built-in calculator). But there is still a lot it *can* do. There is, unfortunately, no autoboot for the 128 included on the disk, but the system works smoothly on the 1571, and loads fairly quickly.

The system provides you with a number of options for configuring **FS II** to your printer and interface combination, via a process both easy and painless. Load the program called "Start-Up" the first time you use **FS II** (or whenever you change printer or interface), and answer the indicated questions. The documentation in your manual should see you through if you have any problems.

Speaking of documentation, the **FS II**'s User's Guide is friendly, clear, and sports a helpful index. (I just *hate* a manual without an index.) When you combine the documentation with the Quick Reference card which lists the most commonly used commands, you have a system which you can use almost from the first moment.

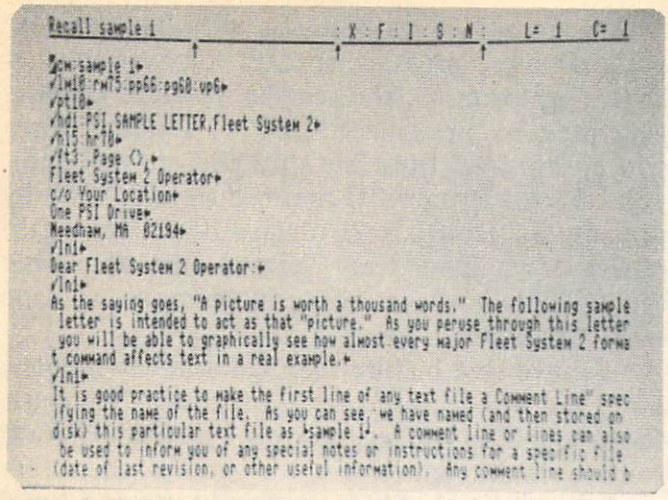
The status line at the top of your screen, as you might expect, keeps you instantly updated on the row and column of your current cursor location. It also tells you whether you are in the regular or extra text area (more on that later), and also reminds you of which options are in effect. Any prompting messages are printed for you in this area.

I found **FS II** especially easy to use as a long time user of **Easy Script**. If that sounds confusing, let me clarify. Much of the command structure of **FS II** is remarkably similar to **Easy Script**, so those of you who have your programming "in your fingers", so to speak, don't have to learn all new commands. **F5** still gives you all caps, **F1 r** (pressing the function 1 key followed by the letter "r") starts to define a range, **F1 e** allows erasures, **F1 o** (followed by any of a number of options) allows you to output to various devices and in various ways; "cn1" turns on centering, "cn0" turns it off, "lm(number)" sets the left margin, etc. Sound familiar?

In fairness, I must mention that like **Easy Script**, **FS II** does not have word wrap. I personally don't find this a problem, but a lot of people *do* want word wrap. Even with the similarities, please don't think that **FS II** is just a clone of **Easy Script**. It does lots of new and different things.

One of the nice extras **FS II** gives you is the ability to enter and manipulate numeric data in columns; quite handy for tables, charts, etc. Special numeric tab stops automatically align the figures for you, (negative numbers can be indicated in several ways for your convenience), and "**F1 =**" provides you with totals of your columns. This isn't all; you can even indicate which numbers in the columns you wish to have totaled, should you not wish to deal with all your entries. And of course you can use your keypad to enter the numbers.

Another nice feature is the "extra text" area. This is an area of memory which is blocked off from the "regular" (and larger) area where your text will be. This "extra" area will hold about 4000 characters (one page of text) as op-



Fleet System edit screen after a sample letter has been recalled (loaded) from disk. Document's name, Sample 1, shows on status line above tabs line.

posed to the approximately 50000 characters (12+ pages of text) which can be held in main memory.

I predict that you will come to love your extra area — there are so many ways you can use it to make your life easier. For instance, you can store your help files in this area for quick reference. Or you could store the disk directory here for easy access without erasing the file in main memory (did I mention that if you call up a directory, it erases all the other text in that memory area?).

The thing I personally like best about the extra area is its ability to transfer text to the main area. Information (a name, date, phrase, etc.) can be stored in the extra area and either appended to the text in the main area or merged as a "fill file" into the main text. If you are appending text, you can store as many items to append as you can fit in extra text, and call each individual one up by a pre-designated identifying name. For example the phrase "Thank you so much for your kind attention in the above matter," could be assigned the ID name "THANKS" by the simple expedient of typing

[up arrow]THANKS[up arrow]

and then the phrase in question. The phrase is called into text by simply pressing **F1 a**, then typing THANKS.

If you remember to work in INSERT mode, your main text will move to accommodate your appended text wherever you put it. If you are using the extra area for merging into, say, a form letter, you should have nothing else in the extra area but the file containing the information to be merged. You can then put your form letter into main text.

Your form letter will have "variable blocks" marked in it (as clearly explained in the **FS II** user guide), and by simply pressing **F1 1**, you can call in all the information from extra text which you wish to place in the blocks. Just keep pressing **F1 1** to get additional sets (a set of information fills all the blanks on a page) of information. This process is also known as a "mail merge", since you often use it to create form letters to mail. Some fun, huh?

Now that you've created your letter, wanna print some labels? No problem! Just store the names in your mailing list in a sequential file on your disk using the "output to disk" feature.

Note: This feature is covered in greater depth later in this article.

Then, from the main text area, you access this sequential file and fill in the variable blocks. You will probably need to fool around with margin settings and page lengths to get everything nice and neat on your labels (regrettably few of us get everything right the first time), but once you have it set up (and you should only have to worry about the set-up one time), you can just crank those little labels out.

Remember a couple of paragraphs ago when I said the main text area could only hold twelve pages? What do you do if your text is longer than that? Yes . . . in the back . . . that's right . . . you LINK files. A simple command at the end of a file, **nx** for "next file", automatically calls up the next file you want, whether it be the next part of a long document, the next chapter of a book, or any sort of related file. The linked files can also be printed together using the "global" print commands.

For those of us who have *occasional* problems with spelling, **FS II** has included a 75,000 word spellchecker (with the option to add 12,000 more words of your own). **FS II** will go through your document, and compare each word to the words found in its dictionary, begining with the "a" words and ending with "z" words (logical, huh?), then it checks the words in your personal dictionary. The screen blanks during this process, but if you're anxious to know where you stand, pressing the Commodore key will tell you which

letter is being checked, or the number of the word in your personal dictionary which is being compared. After the comparisons are accomplished, you will see your file with all the unmatchable words highlighted. You then have the option with each word to correct, ignore or add to your personal dictionary.

In addition, **FS II** will show you the number of words, the number of different words, the number of times each word appears, the number of sentences, the number of paragraphs, the average word length, and more. This may not all seem vital to you, but if you ever get paid by the word, boy will you appreciate it (grin). You could also use this feature to see if you're using some words too often, or to see if you use certain types of words too often.

Note: Word count is also accessible outside the spellchecker by pressing **F1 3**.

Once you've created and spellchecked your document, you have several options on how to save the document. You can use a simple "store" command which saves all or part of your document as a "screen code text file" which can be read by **Fleet Systems**, but is not easily translatable to other systems.

Note: These screen code text files seem to be the only files which **FS II** can read accurately. I've had one heck of a time getting **FS II** to read files generated by other machines or word processors.

If you want to save your file in another form, **FS II** gives you several options, by "outputting" your file to disk rather than "storing" it. By using the OUTPUT command you can save the file as a CBM file (a file saved in PETSCII, and readable only by a Commodore), an ASCII file (your file translated into ASCII and readable by most systems ... except Commodore), or a Printer file (send a file to disk *exactly* as you would send it to the printer, with margins, indentation, etc.) Oh, yes. You can send printer commands from within **FS II** to access any of your printer options, and add interest to your work. All these options give you the variety you need for any occasion.

Note: The spellchecker would indicate that I've used the word "option" too much in the preceding paragraph.

Two final items of note. First; **FS II** provides you with the capability of writing text in Spanish. All the special letters of the Spanish language are obtainable by pressing special combinations of keys. For example, the reverse question mark is generated by pressing SHIFT=. Finally; when you are through (and are *sure* you are through), you can exit from **FS II** and return to BASIC by pressing **F1 [shift] b**. (I always hated having to power down from **Easy Script**.) Just remember this will destroy everything in memory, so save what you want to keep.

I have just hit the highlights in this review. **FS II** is a full-featured word processor. Headers, footers, setting ranges, accessing disk to perform routine maintenance are all among the other available options. All in all, **FS II** is a good, solid program where the pluses outweigh the minuses (I give strong pluses for ease of use). I give it a B or B– on the Skelton Scale.

■

Addendum:

64 Version

40,80,120 Columns
80, 120 require scrolling

Main text area 17280 characters

Extra text area 5760 characters

128 Version

80, 120 Columns
120 requires scrolling
Accesses numeric keypad

Main text area 51840 characters

Extra text area 12400 characters

PaperClip 128
The Best Just Got Better

by Randy Chase

In The Beginning ...

A good word processor can become a very personal piece of software. The more you use one, the more comfortable that operating environment becomes, and the less you see of, or think about, the software; and the more you focus instead on what you're doing on the screen. I've always felt that the first significant consideration in evaluating a word processor (WP) is to see how much of your attention it demands. Once you graduate from that initial learning period, it should free you to concentrate on your work, not on using your word processor.

The degree of ones bias is usually directly proportional to the amount of time invested in becoming fluent in the particular command structures and options of the WP in question. When writers argue about their particular preferences among the many word processors on the market, they can tend to be both emotional and irrational.

A discussion between writers over the relative pros and cons of **PaperClip** and **SuperScript** can take on both the fervor of opposing religious zealots and the childish emotionalism of a baseball manager kicking dirt on an umpire. After all, it's only natural to favor the product you know, since it will obviously be of the most practical use to you.

My first word processor (and in this case, I use that descripton *very* loosely) was Commodore's **Word Machine**. It only took me about fifteen minutes to discover that a dull pencil and illegible handwriting were both faster and more efficient than this *so-called* word processor. (Fortunately, the dealer threw it in as part of the package deal when I bought my first computer. He didn't tell me that it was almost completely useless, nor did he warn me that I'd have to wait five months to actually get my copy.) From there, I quickly graduated to **Word Pro 3/Plus**, which, at the time, was the most powerful and versatile WP on the Commodore market. After spending a year slowly learning how to use it, a few minutes of watching someone use **PaperClip** suggested that perhaps it was time to make another switch.

The transition from one to the other was much less painful than I had anticipated. The relearning process was expediated when I realized that the command structure used to format a document in **PaperClip** was almost identical to **Word Pro** (and is also very consistent with **Easy Script**, **SuperScript**, and the **Fleet System**). Over the last two years I've used, at least briefly, most of the WP's available for the Commodore, and have yet to find anything that tempted me to make another change. After using the 128 version for several months I've gained even more respect for the power and sophistication of **PaperClip**.

I don't know if it's a testatment to the versatility and power of the software or an incriminating testimonial to my own tendency to stumble blindly through a program, guided primarily by the need of the moment, but I don't think that I've really scratched the surface in exploring the seemingly endless features included in **PaperClip**. I tend to learn no more than I need to know to accomplish a particular task. When I discover something else that I want to do, I look it up in the manual. Guided by the blind dictation of both whims and needs, I slowly discovered my way around **PaperClip** to the point that I can do all the various word processing tasks I normally tackle without having to think about the commands required.

To be honest with you, I don't really use it. It's just sort of there. I usually start my day by loading **PC**, and from there on the only time I'm really aware of its presence is when I have to reset the system to do something else. My fingers have learned to co-exist quite productively with it, without requiring any real conscious thought on my part.

PaperClip has been the standard for Commodore word processors for long enough that to try to detail all of the options and features would

be both beyond the scope of this article and too repetitive to interest most people. Instead, I'll try to focus on the reasons I personally prefer **PaperClip**, and will touch on some of its unique features.

What Can PaperClip Do?

Now that's a hard question to answer. It would be far easier, instead, to discuss what it *won't* do. The only valid criticism that comes to mind is that it does not have word wrap. Having used word processors without word wrap for so long, this doesn't bother me. In fact, when working on a document where spacing is crucial, I prefer to work without it. If word wrap is high on your priority list, you'll want to look elsewhere. If, however, you are looking for the single most powerful and versatile WP available for the Commodore (64 or 128), the almost overwhelming range of options and features of **PaperClip** warrants your serious consideration.

All of the standard WP features are included in **PaperClip**, but where **PC** really comes into its own is with some of the more powerful and exotic commands. If you're working on a manuscript, and you so desire, **PC** will compile a table of contents for you, complete with the correct page numbers. The column commands, while not needed by everyone, will be immensely valuable to some. Within your document, you can add columns of numbers, insert or delete (and even move) columns, and even sort either alpha or numeric columns.

PaperClip not only supports a wide range of printers (as well as offering the ability to create customized printer files), but it also offers a video output preview mode, the ability to change your printer device number, and even the versatility to print your document as a seqential file, in true ASCII, to a disk. The latter feature can be invaluable in transmitting data to a non-Commodore computer via a modem.

One feature that is of utmost importance to me is **PaperClip**'s versatility in reading files from other word processors. It won't read everything, but it can read far more files from other software than anything else I've tried. Many programs (such as **Fleet System** offer the option of conver-

NEW UPDATED VERSION
Now Includes 1541 FAST NIBBLER

ANOTHER MASTERPIECE

The Programmer **MIKE J. HENRY** has done it AGAIN with

FAST HACK'EM

FOR THE COMMODORE 64

DUAL DRIVE **MSD**
- Automatic back-up of nearly all protected disks in ***68 Seconds!***
- Using unique track analyzation process, protection schemes are treated as normal data giving you an original back-up.
- Equipped with Special Auto-Back-up.**

SINGLE **1541**
- FASTEST single drive back-up ever made, less than ***2 Minutes!***
- Backs-up all standard disks in only ***3 Passes!***
- Nibbles protected disk in less than ***3 Minutes!***

TWO DRIVES **1541**
- Automatically backs-up a standard disk in only ***35 Seconds!***
- Nibbles protected disk in less than ***60 Seconds!***
- Also equipped with Special Auto-Back-up**

Dealer Inquiries Welcome!

****SPECIAL**
Auto-Back-up After booting up, the computer is no longer necessary, and may be disconnected. The drives automatically detect the disk being inserted and removed. An absolute must for multiple back-ups!!!
All routines are highly reliable and include full verify option.

EASY TO USE
ALL VERSIONS ON ONE DISK

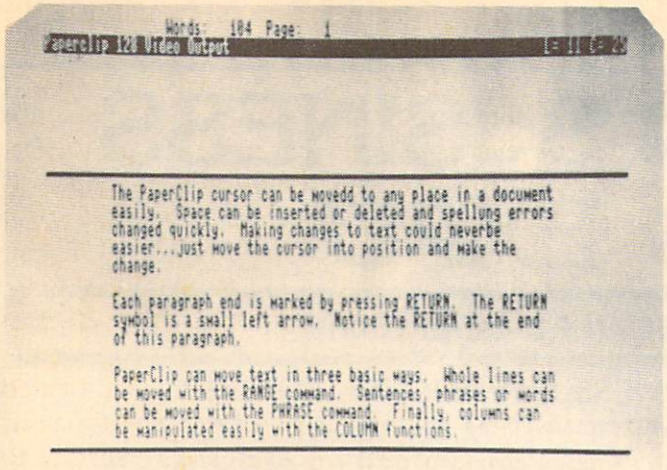
ONLY $29.95
ADD $3.00 SHIPPING

VISA MasterCard
Check, Money Order, **VISA, MASTERCARD** Accepted
Add $3.00 for C.O.D.'s

ALWAYS SAME DAY SHIPPING

BASEMENT BOYS SOFTWARE
P.O. Box 30901 Portland, OR 97230-0901

(503) 256-5506



Word processors allow you to see what a printed document will look like even before you put it on paper. PaperClip also provides word and page count.

ting a file to the proper format, which usually requires exiting your program, altering the file, and then re-booting your word processor.

Our writers use a wide variety of word processors, and it's the exception rather than the rule when I have to deal with a file that I can't read with **PaperClip**. If you're going to be exchanging data files with someone else, or with other software, **PC** allows you to over-ride the standard mode of storing text as a program file and instead save a document as a sequential file.

How Does It Work ??

The biggest single complaint people have with **PaperClip** is that it's too hard to learn. While I'll grant that it lacks the on-screen menu options of **SuperScript**, its command structure is streamlined, efficient, and for the most part very logical.

With most word processors, the trade-off for simplicity and friendliness is at the expense of power. **PaperClip** *is* going to require that you learn how to use it. It doesn't write letters for you, and it doesn't spell out your choices on the screen before you. Considering this, if your uses are going to be casual, you don't really want to spend the time learning to use a new software package, and you don't need the flexibility and power of a professional word processor, then perhaps **PC** isn't for you. However, should you have a need for power and flexibility, you can't go wrong choosing **PaperClip**.

Using a control-key-driven option line, the most frequently used commands are quite simple and straightforward. To load a document, simply hit the CONTROL key, and when prompted for the option, press L. To save a document, the command key is S. If you're working with a 64, investing in a Cheatsheet will rapidly accelerate your learning curve. (Unfortunately, LeRoy doesn't yet offer a Cheatsheet for the 128 keyboard.) Almost every command or option available is compacted into a four-page summary in the manual.

The manual is well organized and indexed, and for the most part, quite simple to use. The greatest flaw I found in the documentation is the chapter on creating your own custom printer file. I know several people who have mastered it, and they reassure me that it can be done without that much effort, but I've never gotten a custom file to work quite right. Fortunately, the list of printers supported with files on the disk is quite extensive. There are, in many cases, a variety of files for the same printer to insure the greatest flexibility in integrating the software with the printer and the interface. If you have a non-standard printer you might check the list, and also check with Batteries Included to see if a file is available for your printer.

PaperClip, on loading, can be many different things. Since it's protected by a dongle (a key that plugs into one of the joystick ports), the disk is free of DOS-based protection schemes. Back-ups are not only possible, but encouraged. Once you discover the right printer file, you can merge it into the program, and by saving it to a new disk, have your own ready-to-work-with version. Default screen settings can also be merged into the program in a similar manner.

If you are looking for a word processor for your 128 and you still own a 64, or if you are currently using your 64 and are planning on upgrading to a 128 in the future, there is another reason to seriously consider **PaperClip**. On one side of the disk, they provide the 128 version,

The 128 version of **PaperClip** offers 80-column RGB output, and a greatly increased text buffer (39,992 characters — approximately 8,000 words). It also allows access to the increased storage capacity of the 1571 disk drive.

The basic design is identical to the 64 version of **PaperClip**. Both are included, on opposite sides of the disk. When running the 128 version in 40-column mode, there is no visible difference.

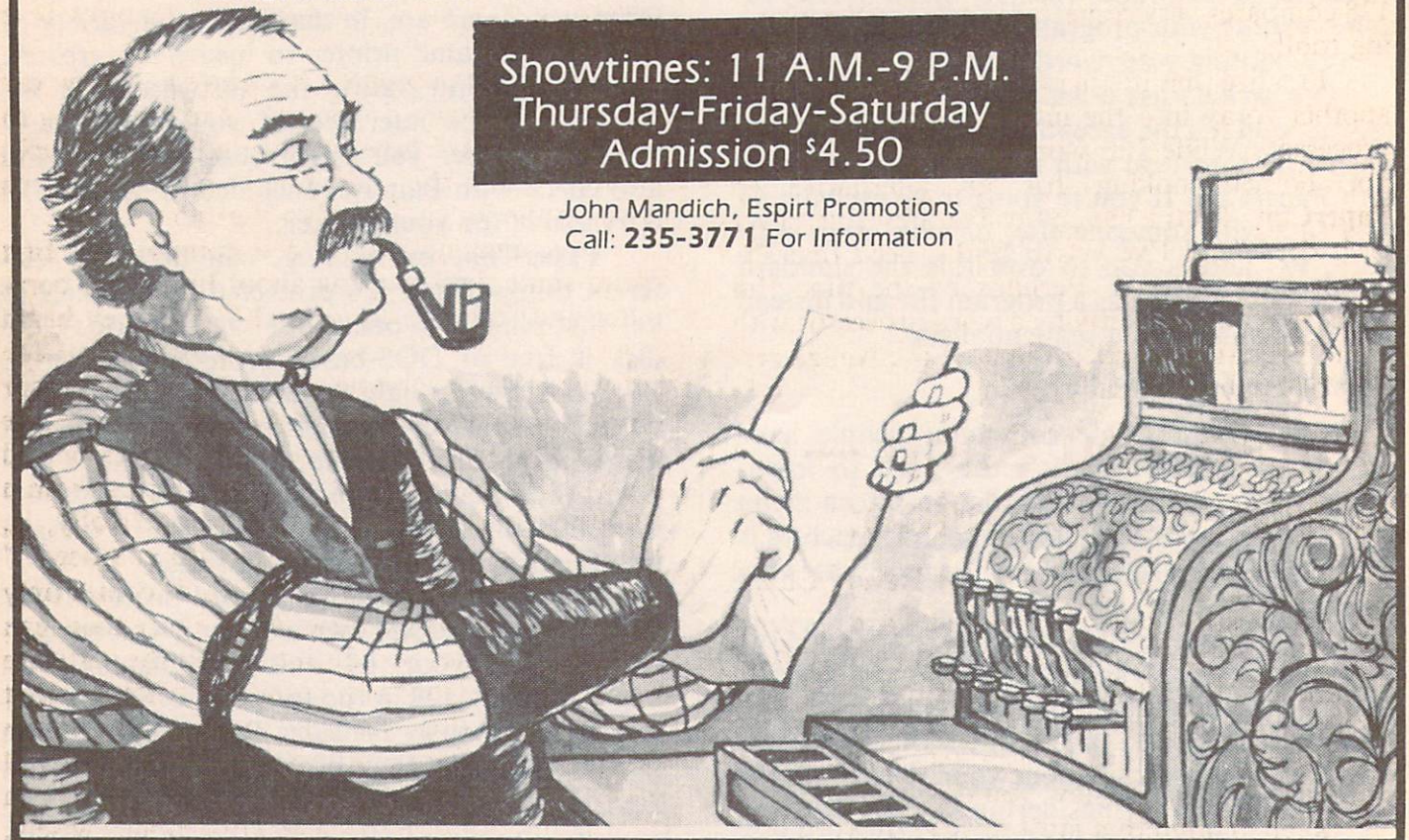
COMPUTER & BUSINESS SYSTEMS EXPO

MAY 8, 9, 10 AT MEMORIAL COLISEUM

JOIN US IN OUR 4TH YEAR! OWNERS, PRESIDENTS, PURCHASING AGENTS, AS WELL AS DEPARTMENT MANAGERS, SECRETARIES, DATA PROCESSING AND WORD PROCESSING PERSONNEL, WILL FIND IT A MUST TO ATTEND. OUR HANDS ON DEMONSTRATIONS, BUSINESS SEMINARS, AND EDUCATIONAL PROGRAMS ALLOW ALL WHO ATTEND TO MAKE INFORMED PURCHASES. WE HOPE YOU WILL JOIN US.

Showtimes: 11 A.M.-9 P.M.
Thursday-Friday-Saturday
Admission $4.50

John Mandich, Espirt Promotions
Call: **235-3771** For Information



SPONSORED BY: The Oregonian, KPTV Channel 12 & KXL News Radio 75 AM

May 8, 9, & 10 — Memorial Coliseum — Portland, Oregon

ready to run in either 40- or 80-column modes. When you turn the disk over, you find the 64 version. It would be nice to see more companies offering this kind of versatility. Most packages that say "64/128" just mean that it will run in the 64 mode on the 128. It's a real boon to the consumer to receive two different programs for the price of one!

With the addition of the 80-column RGB output, the increased speed in the 128 mode, and the doubled disk storage capacity, **PaperClip 128** is hard to resist. The biggest advantage I've found in working with the 128 as opposed to the 64 is in the enormously enhanced word processing power of both the hardware and the software. For those of you who have long tolerated that friend with his IBM, or his Apple, who loves to talk about how much better his "real" computer is, I'm telling you there is a chance for you to laugh last. When combined with **PaperClip**, the 128 compares very respectably as a word processing tool.

I realize that it's just about time to make yet another foray into the mysteries of a new word processor. While I'm working with my 128, I'll not bother looking for an alternative to **PaperClip**. It still has many features I've never even tried, and I've yet to find a need that **PC** didn't have covered. Perhaps by the time I'm ready to really start driving a word processor with a tail, Batteries Included will have the Amiga version of **PaperClip** ready.

Before You Shop — A Word of Advice:

by Randy Chase

We've spent several thousand words herein, extolling all the reasons you should want to rush out and buy the latest and the greatest word processor available for the 128 PC. Now, let me counter all of that enthusiasm with a few words of advice that might slow you down some.

Keep in mind that most reviews of word processors are written by writers. Writers have a relationship with the software that is not necessarily average or normal. Not everyone who owns a word processor will stay up all night feeding it endless streams of sometimes meaningless words. It's not the average user who loads his version of **PaperClip**, then leaves it in memory (and in use) for days at a time.

Here's something that's always bothered me. Often, when buying their first computer, new users are informed by the salesman that, *of course*, they'll also need a word processor, and, yes, also a data base. In defense of the salesman, he probably made little or nothing on the sale of the Commodore, and is simply looking for something out of the deal that will effect his pay check at the end of the month. But, the take-home price of that cheap computer just increased — possibly by as much as $200.

I'll be the first to agree that almost everyone who owns a computer should have a word processor and a data base. But, I totally *disagree* that people should spend serious money for such software without understanding what it is that they are buying. If you've never used a computer, just how do you determine which word processor is good, which one is bad, which one has the right combination of features for you; and, for that matter, just what combination of features is it that you need?

I've often compared it to buying a new car before you've ever driven one. Are you going to choose one just because it's red? Or, maybe, because that's the only one they happened to have on the lot on Sunday afternoon?

I recommend that all new computerists first spend some time learning about both their computer and software in general before they begin investing their always-too-limited budget for software. Yes, everyone needs a word processor (even if *they* don't know it yet); and, yes, I have sometimes said that it takes a word processor and a printer to distinguish a home computer from a game machine. The critical question, really, is, "Just how *much* word processor do you need?"

This understanding, you'll find, comes only after some hands-on experience. Only then can you discover likes and dislikes about the software you are using. Once you know just what it is that you want to do, and you understand enough about the software to know which programs will do what you want (and which won't), you'll be in a far better position to spend your money wisely.

For the person who isn't really sure just what a word processor is, or for that matter, just how he's going to use one, I'd suggest starting very modestly. Once you've used a simple word processor to the point that you're finding certain specific needs that your present software can't meet, *then* start shopping for the package that will satisfy your list of needs.

Elite: English Space Adventure

by Mindy Skelton

This is a review of **Elite**, an award-winning game of swashbucking space adventure, strategy and action. It is also a brief discussion of a minor piece of technology. It is at times like this that I am most grateful to be a writer. If it were not for this forum (thanks Randy) I wouldn't be able to warn all you game players out there about the single most annoying protection scheme I've ever seen (and that's really saying something)!

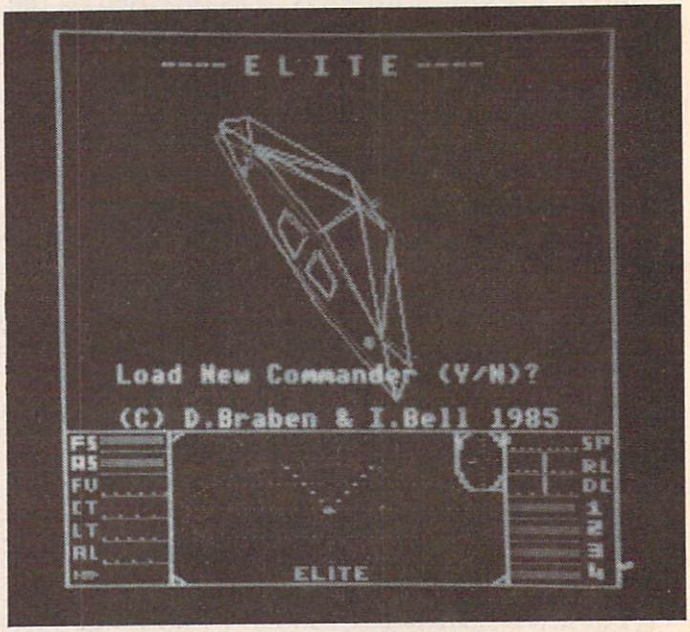
Firebird, an up-till-now sensible, rational and reliable software company, has introduced a new game featuring what has been referred to as the "new English protection scheme". Well, if this is England's newest export, we may need to consider fighting another Revolutionary War. The game in question is **Elite**, and the protection is as follows.

Included in the package which you purchase for $29.95, is a small piece of plastic, the LENSLOK, consisting of two flaps and a central "lens". You are also given a set of the least helpful directions ever written by those hoards of writers who write cryptic instructions for games.

The first thing you are told to do, is place your plastic "lengthwise" on the screen, and adjust the two outermost of three lines on the screen using the "cursor keys '5' and '8'". HA! Never mind that you have no idea whether "lengthwise" indicates placing the implement in a vertical or horizontal position (you can probably figure that out by trial and error in 40 minutes or so), but the indicated keys don't work. Press '5' and '8' till your fingers fall off, and those lines won't move.

I'm a nice person. Let me help you. Put the "thing" horizontally on your screen, with the center line in your lens on the center line on the screen. (That is, place the longest sides of the gadget parallel to the table top, and the center line of the plastic lens on the middle one of the three lines on your screen). Now all you have to do is adjust the two outermost lines until they touch the edges of the plastic whatever-it-is by pressing the Cursor Left and the Cursor Right keys. Not confused are you?

Great! You've now completed step one. (*Step one !?!*) OK. Now take your platic do-hickey, fold it into a little "table", place it on the screen centered over the central line, close one eye, make sure one more time that the central line



Congratulations, if you see this you have overcome the Lenslok barrier. Hopefully the catchy music that goes with this initial screen returns you to a playful mood.

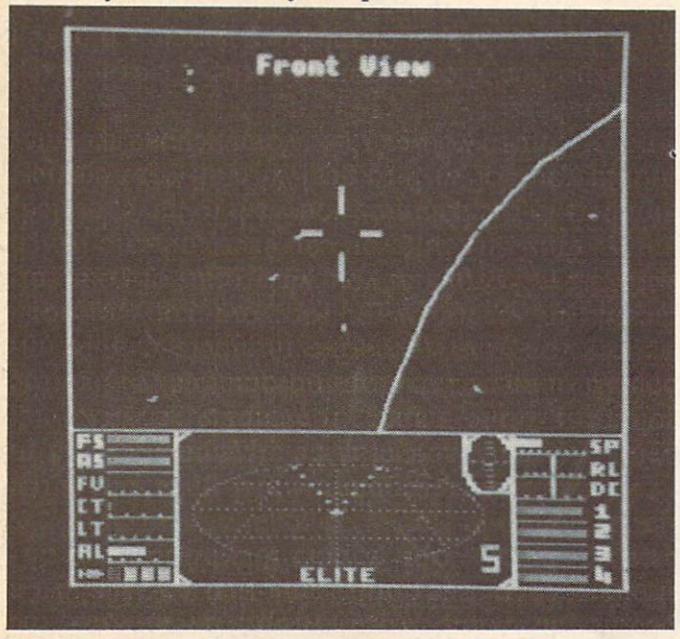
on your thing-a-ma-bob is centered over the center line on your screen, and pressing the Cursor Left and the Cursor Right keys again, adjust things until you can see the letters **O** & **K**. (Keep that other eye closed!)

Once you've seen **OK**, press return and you will be shown two other letters. Now type those letters in *quickly*. You have a time limit. If you goof up, don't worry, you get three tries before the system resets and you have to start the whole bloody thing over again. If you've done everything right, the game will now load, and you can play. *Big deal!*

Now, I don't know about you, but my life is not as organized as I might like. I lose things. Do you? Do you have pets who like to play with small pieces of plastic? How about children? Got any children who might think your key to **Elite** is

a great toy? Sure hope not, 'cause if you lose that "protection device" you might as well re-format the **Elite** disk; you'll never play it again!

Note: I do actually know one person who said *his* letters were the same every time so he avoided all this nonsense . . . but at a small price. It seems the adjustments you make to make the letters visible also have an effect on the graphics, so he just lived with distorted space ships and oval planets. None of the games I tested seem to be as consistent as his with regard to letters, but you can always hope.



Adventure ahead. Looking over the control panel, you see a passing planet.

Come on, Firebird !! Do you *really* think LENSLOK is gonna stop piracy? There's probably some eight-year-old out there giving copies of **Elite** to everyone on his block. Considering that there doesn't seem to be any kind of protection after you get through the LENSLOK check, and considering all the new devices on the market which dump games that load entirely into RAM from RAM to disk, this sort of protection seems to be in vain.

No, all this kind of protection scheme is gonna do is make a lot of people mad, and earn Firebird a lot of enemies. I sure hope they think it's worth it.

Note: The newest Firebird games come without LENSLOK.

The *really* annoying part is, in my judgment, that the protection is completely unnecessary. This is an *incredibly* complex program. There are 2000 planets in eight galaxies for you to explore. There are 22 different kinds of space ships to identify. There are dozens of commands to be memorized. The program comes with:

1. A book of the background plot (in a story called "The Dark Wheel") and general information
2. A two-page "quick" command summary
3. A poster identifying all the different ships
4. A keyboard overlay, and
5. An in-depth manual giving advice, strategy and general how-tos on the game

Elite would be next to impossible to play without this information, and very few pirates supply documentation.

One last word on the protection: Firebird is a well-known company in England and Australia and in both countries, **Elite** is one of the best-selling games. Fine. But, after talking to an Australian friend and another acquaintance who just returned from England, I was told that in neither country do you get LENSLOK! You just boot up and go. Why was it felt that we had to have extra protection? Oh well. Enough.

By the time I got through with loading up **Elite**, I was so mad, that I probably wouldn't have wanted to play the best game ever written, which Elite is probably not, but after careful consideration, I'm bound to say it's a pretty darn good game for its kind.

Don't expect fantastic graphics. You can look through the front window of your spacecraft and see the stars coming at you, or out the back of your craft and see the stars going away from you, or out the right and left windows and see the stars passing by. You can also look at complicated control panels, maps, and information readouts on the planets in this part of the universe. You can even fight other spaceships that look like refugees from **Asteroids** (remember *that* one?)

Ok. So they're line drawings, but they spin and rotate in very lifelike ways, and that's hard to do on a Commodore. Besides, graphics is not the main thrust of this game. This is a beautifully convoluted simulation, granting you an enormous universe to explore, trade in or pillage (according to your tastes). It's even fun. There's enough shooting to keep things from becoming boring and enough strategy to keep it from becoming mindless.

OK ... here's what it's all about. The "goal" of the game is to become one of the Elite. This is the highest rating a pilot/trader/fighter can get. You start out as "Harmless" and move through "Mostly Harmless" (shades of **The Hitchhiker's Guide to the Galaxy**) to "Poor", "Average", "Above Average", "Competent", "Dangerous", "Deadly", and — at long last — "Elite"!

How, you may wonder, do you become an "Elite"? Ah! That's not an easy question to answer because there are so many different facets to life in this universe. You need to become a skilled pilot. You will have to learn not only how to plot your course from planet to planet, and galaxy to galaxy, but also how to maneuver in a fight in three-dimensional space. You will have to learn the precise skills needed to maneuver and dock your ship at the local space station where the trading action happens. (That is also the *only* place you can SAVE your game ... *very* important!)

You will need to learn how to use your armaments for both defensive and offensive purposes. You need to sharpen your skills as a trader — whether you're trading to build your fortune, or to acquire new and better armaments for your fighting forces, you will soon recognize the need to be a canny trader.

You may buy fur, gold, computers, textiles, or the like, in one system and sell them at a profit in another. Or, if you dare, sell slaves or firearms and make more money quicker; but, be willing to pay the price of becoming a fugitive from the law and have to fight police as well as pirates and unscrupulous traders like yourself.

Learn the ways of alien civilizations and of aliens — good, bad, and neutral. Be a reckless daredevil. Fight, kill, destroy and rack up those points; but be prepared to die young if you choose this path. Depart further from the paths of the trader and become a Bounty Hunter, a Pirate or an Asteroid Miner. You must find the path that balances *your* skills as a flyer, trader, fighter (and coward — at least until you get enough experience to win a fight) so that you may live long and become one of the Elite.

Despite the screams of several of my friends who think **Elite** is the greatest thing since sliced bread, I can't give this game an A rating because of the stupid LENSLOK, but it's good enough in spite of this to get a good solid B+.

AVAILABLE AT YOUR LOCAL DEALER

Graphic Screen Exporter 64

★ A Universal Graphic Converter
★ Complete On-Screen Editor
★ Converts Anything to Anything —

Including:

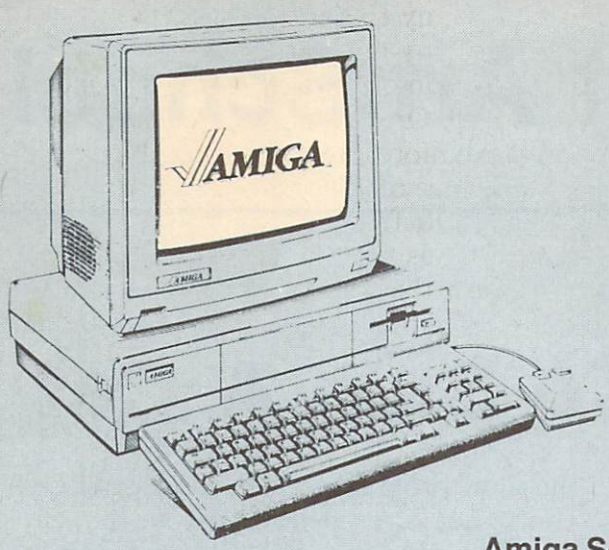
Koala Pad	Flexidraw
Doodle	Print Shop
Paint Magic	Blazing Paddles
CBM Print Shop	Screen Magic
Non-CBM Print Shop	Cad-Gem
Sorcerer's Apprentice	COMAL
Micro Illustrator	Logo
Movie Maker	Micron Eye

The Ultimate Graphics Utility Package For the Commodore 64™

Now you can convert any graphics file created with any commercial graphics program to a file compatible with any other package! Turn your Koala Pad pictures into Print Shop files. Or your Doodles into Flexidraw files. Converts anything to anything! The Screen Exporter is the single most powerful graphics program on the market for the Commodore 64!

The Most Versatile Graphics Utility Ever Released For the Commodore 64 !

For dealer information call (503) 654-2641 **Only $29.95**



AMIGA SPECIAL

$1595.00

- CPU w/68000 Processor
- Keyboard & Mouse
- 512K Memory
- Two 880K 3½" Disk Drives
- Amiga 1080 Color Monitor

Amiga Software	Retail	Our Price
Deluxe Paint	$ 79.95	$ 67.96
Textcraft	$ 99.95	$ 79.95
Amiga Pascal	$ 99.95	$ 79.95
Lattice C Compiler	$ 179.95	$ 143.96
Amiga Assembler	$ 99.95	$ 79.95
7 Cities of Gold	$ 39.95	$ 33.95
Archon	$ 39.95	$ 33.95
One on One	$ 39.95	$ 33.95
Hitchhikers Guide to the Galaxy	$ 39.95	$ 29.96
Mindshadow	$ 44.95	$ 33.71
Hacker	$ 44.95	$ 33.71

Commodore 64/128 Software	Retail	Our Price
Word Processors		
PaperClip w/Spellpak	$ 79.95	$ 59.96
Bank Street Writer	$ 49.95	$ 37.46
Superscript C-128	$ 79.95	$ 67.96
Spreadsheets		
Multiplan 128	$ 62.50	$ 46.88
Creative Calc	$ 49.95	$ 37.46
Integrated Programs		
Vizastar	$ 119.95	$ 89.00
Data Base Management		
Superbase	$ 79.95	$ 67.96
Superbase 128	$ 99.95	$ 84.96
Entertainment		
Ultima IV	$ 60.00	$ 45.00
Jet	$ 39.95	$ 29.96
Star Trek	$ 39.95	$ 29.96
Flight Simulator Scenery Disks	$ 19.95	$ 14.96
Newsroom	$ 49.95	$ 37.46
Newsroom Clip Art	$ 29.95	$ 22.46
Print Shop	$ 44.95	$ 32.95
Print Shop Graphics Library	$ 24.95	$ 18.71

Amiga Special Limited to Oregon & Southern Washington Customers Only

SOFTWARE CENTER

(503) 626-8696

Store Hours:
Mon-Fri 9-6
Saturday 10-6
Sunday 12-5

11386 S.W. Beav-Hills Hwy
Beaverton, OR 97005
(across from Beaverton
Fred Meyer)

The Bud Izzit Art School

Other Ways To Skin A Cat

by Eddie Johnson

[Editor's Note: Bud Izzit was again unavailable to write this column — NASA security police discovered him hiding in the cargo bay of the space shuttle "Challenger", attempting to stow away on the next flight. He is now in Washington D.C., trying to explain to the FBI why he should be the first artist in space. In his absence, we have once again prevailed upon his colleague, Eddie Johnson, to fill in for him.]

Have you discovered yet how truly versatile your computer is? If you have been exploring it as a programmer, you may be sharing my feeling that these things have almost unlimited capabilities. The commands and functions are enormously flexible, and it seems there is no *one* way to do anything.

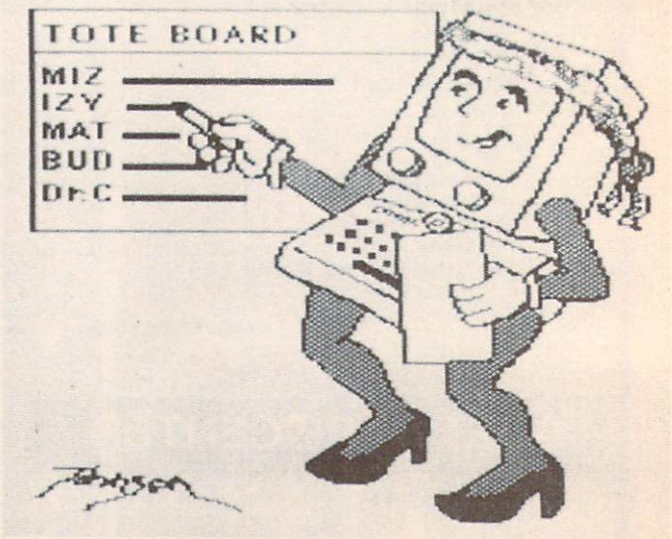
For example, the user's manual that came with your C-64 or VIC-20 shows you two different ways to move a object around on the screen. One method uses programmed cursor controls, and the other uses POKEs and PEEKs. If you thought those were the only ways to get movement on the screen, guess again! This month's tutorial program, "A-NAME-MATION", demonstrates four more ways to animate the screen. These routines allow you to move strings, as well as single objects, and to create interesting special effects.

The "string splitting" commands (RIGHT$, LEFT$, and MID$) are generally used to manipulate words for such things as word processing and data managing functions. I have discovered, however, that they also make dandy little animating tools! Your user's manual will tell you what these string functions do, but, unfortunately, it won't tell you how to use them. Try the short program, "$TRING FUNCTIONS", if you're not sure yet how they work.

The program will take the word and the number you select, and show you the effects of the string manipulations along with the formulas that caused them. Then look at how they are used in "A-NAME-MATION." Do you see how you can use either RIGHT$ or LEFT$ with S$ in line 200?

SPC(x) and TAB(x) are also dealt with in a very "cursory" fashion by the user guides. These are "formatting" functions which were never designed for doing animation, but with a FOR ... NEXT loop to change the variable, they will quite cheerfully move things around for us!

Now, if we only want to move something to the right, we could use the CONCATENATE routine. Concatenate means "to link together"; B$ just adds a blank space (A$) to itself each time through the loop, thereby lengthening the blank



line before N$. We are also concatenating in line 110, to get a blank line 21 spaces long. Unfortunately, you cannot *subtract* one string from another, so we can only move to the right with this routine. However, if you wanted to make a lot of extra work for yourself (and your computer), you could write a routine that would appear to "deconcatenate" a string.

You now know of *six* different ways to move an object on the screen. I can think of at least five more ways. How many can you come up with? Can you figure out some new ways to move an object or string vertically or diagonally? How about an object that changes as it moves? Send us your solutions, and we'll print the best ones in a future issue. Let's get moving!

■

"A-NAME-MATION" Listing

by Eddie Johnson

```
1 rem *** a-name-mation ***
2 rem by eddie johnson, 1984
3 rem 2928 tennessee ne, albuquerque, nm
 87110; 505) 299-1662.
4 rem for vic 20 or commodore 64 (or c-1
28 in c-64 mode)
5 rem izzit #2, 'other ways to skin a ca
t'
100 a$=" ":l2=peek(213)+1
101 rem address 213 stores screen  lengt
h-- 21=vic, 39=c-64
110 fors=1tol2:s$=s$+a$:next
120 print"[clr]"
130 print"[down][down]please enter your
name"
140 inputn$
150 n$=n$+a$
160 l=len(n$)
170 print"[clr]"
175 rem ----- right$ <<< left$ <<< -----
180 form=1tol
190 print"[home]";
200 printright$(s$,l2-m);
210 printleft$(n$,m)
220 fort=1to50:next
230 next
235 rem ----- spc([left arrow]) <<< ----
240 x=l2-m
250 form=xto0step-1
260 print"[home]";
270 printspcm)n$
280 fort=1to50:next
290 next
295 rem ----- right$ <<< -----
300 x=l-1
310 form=xto0step-1
320 print"[home]";
330 printright$(n$,m)
340 fort=1to50:next
350 next
355 rem ----- right$ >>> -----
360 form=1tol
370 print"[home]";
380 printright$(n$,m)
390 fort=1to50:next
400 next
410 x=l2-l
415 rem ----- concatenate $ >>> -----
420 form=1tox
430 b$=b$+a$
440 print"[home]";
450 printb$n$
460 fort=1to50:next
470 next:b$=""
475 rem ----- tab([left arrow]) <<< ----
480 x=(l2-l)/2
490 forz=mtoxstep-1
500 print"[home]"tab(z)n$
510 fort=1to50:next
520 next
895 rem --- back for more! ---
900 goto130
```

"STRING FUNCTIONS" Listing

by Eddie Johnson

```
1 rem $$$$$ $tring functions $$$$$
2 rem izzit #2, 'other ways to skin a ca
t'
10 print"[clr]";
20 print"[down]type a word (w$)":inputw$
:l=len(w$)
30 print"[down]type a number (n) from 1
to"l:inputn:x$=str$(n):x=len(x$)-1
40 n$=mid$(x$,2,x)
50 print"[down]left$(w$,"n$")= "left$(w$
,n)
60 print"[down]right$(w$,"n$")= "right$(
w$,n)
70 i=int(n/2)+1:ifi<1theni=1
80 y$=str$(i):y=len(y$)-1
90 print"[down]i="i:i$=mid$(y$,2,y)
100 print"[down]mid$(w$,"i$","n$")= "mid
$(w$,i,n):goto20
```

POWERHOUSE:

Give Control To Your Commodore With Electronic Home Controller

by Grant Johnson

I'm a gadget freak. I've been one for as long as I can remember. When I was five, there was the loud, wind-up alarm clock that was left in the guest bedroom (no doubt to torture guests as they lay sleepless on a strange bed). I was determined to discover what secret mechanism made it, well, tick. My method was one that any nuclear physicist would recognize as valid (at least when he, too, was five). The object under investigation (clock) was repeatedly accelerated into a target (garage floor). Emitted particles were carefully collected and inspected. The faceted brass gears dazzled me, and I was startled by an unexpected source of energy as the mainspring fissioned from the battered clock's body. (Come to think of it, I've since seen that same spiral shape traced in bubble chamber photos. I wonder . . .) Although my mother reached a contrary conclusion, I found the sum of the clock's parts to be far greater than its whole.

Now the TRUE gadget freak doesn't just lust after gadgets. Full appreciation cannot be achieved until the workings of each gizmo and whizzer on the thing has been understood and savored. And lest you equate this with any kind of destructive mentality, adult-level gadgeteering requires that each gadget be restored to serviceability *after* it is "understood". This is a point of pride, if not financial necessity. While adult-level gadgeteering is no mean achievement, there is a yet higher level — professional.

Professional gadgeteers sometimes call themselves "inventors", but more often write in "engineer" or "scientist" on their job résumés. Such descriptions are deliberately chosen to avoid the image of someone who plays with his son's Transformers and GoBots, though they all do, of course.

One of the nicest things about working for *The Guide* is that Editor-in-Chief, Randy, knows how to keep the troops happy. And so it was that I returned from lunch recently to find a box sitting in the middle of my desk labled "X-10 POWERHOUSE". Having years of experience in such matters, I knew at once that there was probably a gadget contained therein. Restraining the gleeful five-year-old in me so as not to confette my office with bits of styrofoam packing, I set about separating box from contents. Sure enough, what I found was a new, er . . . , product to review for the magazine.

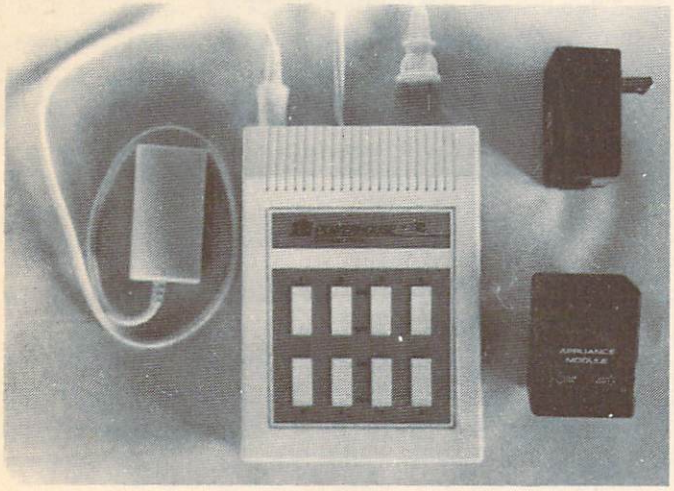
Out of the Box

Welcome to the big-things-come-in-small-packages department. What I found in the box was a deceptively simple-looking "Computer Interface" with eight on/off switches and an accompanying cable to attach it to the User I/O port of a Commodore 64 or 128 PC. Also found were a manual, disk, and an assortment of control modules. Next morning my house was warmed and the morning coffee was made while I slept. My computer was in control of a peripheral quite literally the size of a house. Let me explain.

At its simplest level, the X-10 is a remote control system. Say you have some electrical device (a lamp, perhaps) that you wish to turn on. No need to string wire through the house from the device to where you are. If there is an electrical outlet near you, the wires are already in place. The trick is in making those wires serve the dual functions of both controlling that device and supplying power to it.

The X-10 system solves this problem through the use of a "master" control unit and a "slave" control unit. The master unit con-

trols the slave, and the slave, in turn, controls the lamp. When the master wishes to activate the lamp, it sends coded pulses through the wiring. The slave listens to the code and turns on (or off) the lamp. It's not unlike convicts tapping out messages on a pipe while the pipe continues to carry water unaffected. This is a very flexible arrangement, as the master and slave may be located anywhere there is wiring (even in a neighboring structure, so long as they are supplied by the same power company tranformer).



X-10 system: CP 290 Computer Interface (master control), interface cable and two plug in modules.

Control Modules

Things get a bit more complicated when more than one slave module is to be used. Like our convicts, X-10 system modules have "names". Each unit has a couple of thumb wheels, one of which can be set to the letters "A" though "P" (first name), and the other of which can be set to the numbers "1" through "16" (last name). Say the lamp controller is set for "A1", a coffee pot in the kitchen could then be set to "A2". Time for coffee? The master controller taps out the code for "A2 ON", and the pot perks to life.

There are a wide variety of control modules. The simplest are the on/off units that plug into a wall socket. They have the thumb wheels and an outlet for an appliance. Inside, (the statement "No user-serviceable parts inside" has about the same effect on a gadgeteer that "Cut along dotted line" has on coupon collectors) this simplest unit contains an IC, six diodes, a tuned transformer, numerous capacitors, handfuls of resistors and a relay, all in a small four-ounce plastic package. There are both two-and three-pronged modules, and even modules that replace outlets or light switches right in the wall. One of these little mites is rated at 15 amperes and can control a ⅓-horsepower motor or 500 watts of lighting. Retail price, about $15.

There are on/off wall switches (nice for overhead lighting) and dimmer modules of both wall and plug-in types. With the dimmer type, not only can a lamp be turned on and off, but it can also be set to any state between.

Need even more muscle? The X-10 system includes 220 volt "Heavy Duty Appliance Modules" for air conditioners and even water heaters! Fancy or simple, you can't spend more than $40 on a slave unit.

WHAT'S OUR WORTH ?

From Aquarian Software

Your Personal
Home Inventory Program
For the Commodore 64™
or the Commodore 128™

- Ideal for insurance purposes
- Locate information by name, room, serial number, or cost in 3 seconds
- Easy to use; absolutely no previous computer experience is needed

ONLY $24.95

To order, call (503) 654-2641

Master Controllers

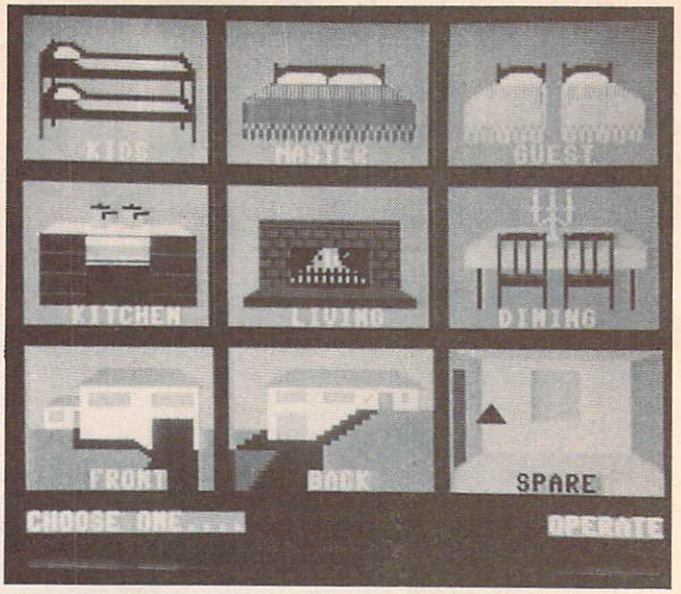
The X-10 system offers nearly as many options for the control of all these slave units as it does for the slaves themselves. Plug in a simple controller (the only installation needed is just that; plug it in), and you are ready to control any device in the system with the press of a button. Systems similar to this have been around at least since the mid-seventies. I played with the ones that promoters put on display, and decided they would be a "must have" item if I were confined to a bed. But the little Puritan in me whispered that it was probably a temptation for the terminally lazy, and such convenience and ease was surely a threat to moral fiber. "The road to Hell is thick with taxicabs", they say. Besides, those older systems were obscenely expensive.

Aside from the tempting prices now offered, the X-10 system can do things that no individual, no matter how pure, can do. There is a telephone "Responder" that makes it possible to control the system by phone. With a pocket-sized sender, you can control the devices in your home from any phone in the world. A quick call home to start dinner and you can continue reading to the blind, arriving home later to serve a righteous hot meal to your family. You needn't even make the phone call, if you set the timer with which many of the controllers are equipped.

The system will even help defend the homestead from invading hordes. The thing can make your place look so lived-in it may never even be targeted by the bad guys (more about that later). Failing avoidance, a link to an alarm system is available that can un-nerve intruders by pulsing every device in the system on and off. (Eighty pounds of really angry German Shepherd on tape might be enough all by itself.) All this is nice stuff, but I saved the best for last.

Versatile CP 290

The real powerhouse of the X-10 system is the "RS 232 Computer Interface" master controller. The top of this compact unit has eight on/off switches, and an activity light (LED). You can use these switches to control slave units, but they are hardly more than a minor convenience compared with the 290's other tricks. To begin with, it comes with a disk and cable.



Choice of rooms and exteriors are displayed. Move to the desired room by simply selecting it.

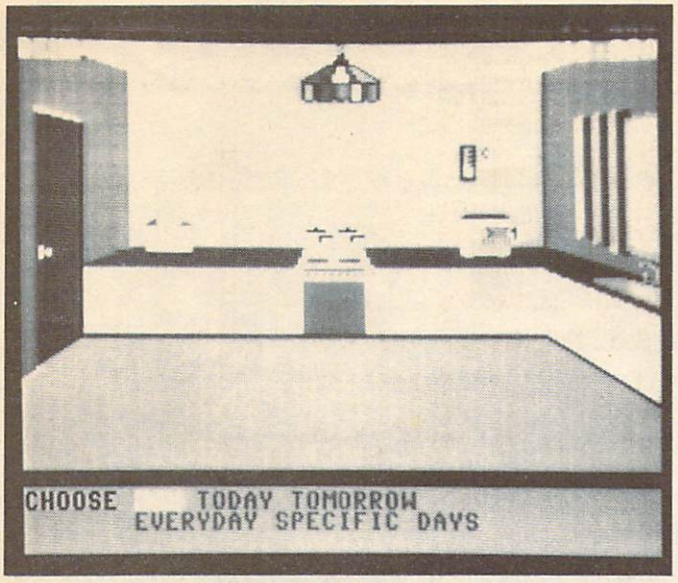
The first time you start up the CP 290, you will want to set its internal clock. If you install a battery for back-up, you will need to reset the clock only for "daylight savings time", etc. In short, the CP 290 is capable of independent operation. Once set up, you can move it to any other location in the house (you have 100 hours on a fresh battery to get it plugged back into a power source).

There is a clear and readable 55-page manual as well, but it is hardly needed unless you wish to use the system in your own BASIC or machine language programs(!) Just `LOAD"X-10",8` and follow the prompts and graphics. After deciding how you wish to control the program (keyboard or joystick), you are offered a chance to INSTALL or OPERATE (or DEMO, if you want a warm-up before getting down to business).

Install

During the INSTALL mode you are free to roam around a typical house on the screen of your computer. Want to automate the control of your coffee pot? Simply move to the kitchen, run the cursor to the pot's location in the room and press return (or the fire button). You have just selected the location of the pot.

Prompts and graphics lead you through the selection of device type (lamp or appliance), and the device's name or control code. You can control individual devices or groups of them. Further, if the device is a



X-10's portrayal of a kitchen. Toaster, overhead lamp, coffee machine ect. can be programmed to turn on now, today, or tomorrow, per your instructions.

lamp, you are given a choice of light intensity in percentage (80% on, for example).

What is happening here is that you are programming the CP 290 by creating a graphic model of the complete system on screen. Describing it is more difficult than doing it. The computer and interface work together so smoothly, I had some doubt at first that anything was happening. I touched one of the switches on the CP 290. Not only did the lamp I had in mind actually go on, but its graphic counterpart on the screen lit up as well!

So far, you have taken care of what, where and how. Next, you need to decide the when. The time-dependent options for each device (or group of them) are: NOW, TODAY, TOMORROW, EVERYDAY and SPECIFIC DAYS. Select NOW, and it happens. TODAY and TOMORROW choices lead you on to the setting of on and off times on those days. (Multiple on or off times for each device can be chosen.) More interesting are the settings for EVERYDAY and SPECIFIC DAYS. Aside from their obvious function, they have a SECURITY option.

The SECURITY option introduces a random variability into the timing. The programmed events happen at only approximately the times set in much the same way that real (imprecise) occupants might do them. The "light show" you leave behind while you vacation for a week might even fool your neighbors.

Operate

The OPERATE mode allows you to take immediate control of the system with the computer. Again you can roam around your graphic home, but this time you can activate the devices as you go. I found this mode particularly useful in verifying that things were set up the way I intended.

Once verified, the schedule created can be saved to disk. The X-10 system permits up to three separate such schedules to be saved and recalled. You might wish to have a summer, winter and vacation schedule ready on disk.

Whatever schedule you decide to install in the CP 290 will remain in effect until you change it. Disconnect the interface from your computer and you are back to business as usual while the 290 continues its work. Come back to make changes in a month or six, and the current schedule will reappear on your screen as the graphic model you originally created. (The schedules on disk are used only to load a complete reset into the system.)

BASIC Operation

The disk that accompanies the system includes a "utility" program which, when run, modifies BASIC. The modification adds commands so that your programs can use the CP 290 interface to control your home..

What does a computer do with a whole house? I won't spoil your rainy-day fun by trying to answer that. Except to mention that one of our adventure game types is hard (and secretively) at work on a game in which " . . . *real* people actually move through *real* rooms and . . . "

■

"A politician is a man who understands government, and it takes a politician to run a government. A statesman is a politician who's been dead 10 or 15 years."

Harry S. Truman

If Moses had sent the Ten Commandments by mail, three would have arrived late, four would have been broken, and the other three wouldn't have gotten there at all.

Shop At COMPUTER MART Fo

DISK BANK

Premium Bulk SS/DD
- (No Minimum Order)..... each **63¢**

Premium Bulk DS/DD.....ea. **79¢**

Premium Bulk SS/DD Gray.....ea. **69¢**

Premium Bulk Colored SS/DD.....ea. **79¢**
- Red, Green, Lt. Blue, Maroon

Discounts Available On Quantities Over 500

DISKETTE STORAGE

Disk Bank 5 Holds 50.....$10.99
Disk Bank 100 Holds 100.....$15.99
Flip 'n' Pak Hold 4 Ea.....$1.49
Disk Doubler Doubles Diskette Storage.....$6.99

JOYSTICKS

Wico Boss.....$15.95
Wico Command Control.....$24.99
Wico Three Way.....$29.99
Quick Shot II.....$7.99

PRINTERS

Panasonic 1091.....Call
Panasonic 1092.....Call
Citizen 120 D.....$199.00
Star SG–10.....Call

INTERFACES

MW–350 Graphic Interface.....$79.99
- With 4K Buffer

PPI Interface.....$39.99

Mail Order Available

VISA COD MasterCard

Same Day Service

All Your Computer Needs !

COMPUTER MART Shopping List

Print Shop.....$32.99
Print Master.....$32.99
Newsroom.....$34.99
Repairable Power Supplies.....$39.95
Ribbons Available for
Most Printers .....Call
Westridge Modem.....$49.99
Write Protects 100 ct.....$1.69
Snapshot 64.....$49.95
Fast Hack 'Em 3.0.....$29.95
Commodore Dust Covers Your Choice...$7.99

- C-64
- C-128
- C-1541
- C-1571

Surge Protectors (6-Outlet Strip).....$19.99
Printer Stands.....$13.99
Disk Drive Cleaning Kit.....$7.99
C-128 RGB Connectors.....$8.99

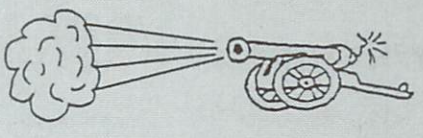
COMPUTER MART

2700 N.E. Andresen Rd.
Vancouver, WA 98661
(206) 695-1005

Open 7 Days A Week:
Monday-Saturday.....9-8
Sunday.....12-5

KRACKER JAX

PROTECTION BUSTERS



Blast Disk Protection

The Next Generation of Copy Utilities Is Here Today!!

*** * * KRACKER JAX * * ***

A REVOLUTION IN ARCHIVAL SOFTWARE !

This exciting new software begins where all other copy utilities leave off — Kracker Jax not only backs up your expensive programs, it also completely strips all protection in the process. You end up with a copy that is TOTALLY BROKEN!

And, believe it or not, that's only the beginning. Check out some of these exclusive features:

- **Kracker Jax is the ONLY program of its kind!**
- **Kracker Jax requires NO special knowledge to operate!**
- **Kracker Jax will back up OVER 80 separate titles!**
- **Kracker Jax strips protection in a matter of SECONDS!**
- **Kracker Jax is a GREAT BARGAIN — just $19.95, complete!**
- **Kracker Jax is UNPROTECTED — easy to back up!**
- **NEW Kracker Jax disks are available regularly!**

Kracker Jax is a parameter copy system. Each Kracker Jax disk contains over 80 parameters — and each parameter backs up a specific title. What's a parameter? Just a set of instructions that allows your 1541 or 1571 disk drive to strip all, and we mean ALL, copy protection from your expensive software, leaving you with UNPROTECTED back-ups that can be copied with anything!

This system has many advantages over older "nibble" type utilities. For one thing, you don't have to experiment. Each parameter WILL backup the title it was created for. Period. For another, a back up created with Kracker Jax will NEVER rattle your disk drive head.

Kracker Jax is one of the hottest new products of 1986! If you want to protect your investment in your expensive software, there is simply NO BETTER utility on the market!

Only

*** * * $19.95 * * ***

Complete !

Getting To Know The Amiga
— or —
Test Driving A Mouse

by Grant Johnson

OK, you've heard incredible things about the Amiga and you're interested. You set aside some time and arrive at an Amiga store. Sure enough, there it sits. You know a bit more about computers than, say, the average K-Mart shopper so this should be an easy deal, right? Plan A: Sit down with the machine for a nice visit — a test drive.

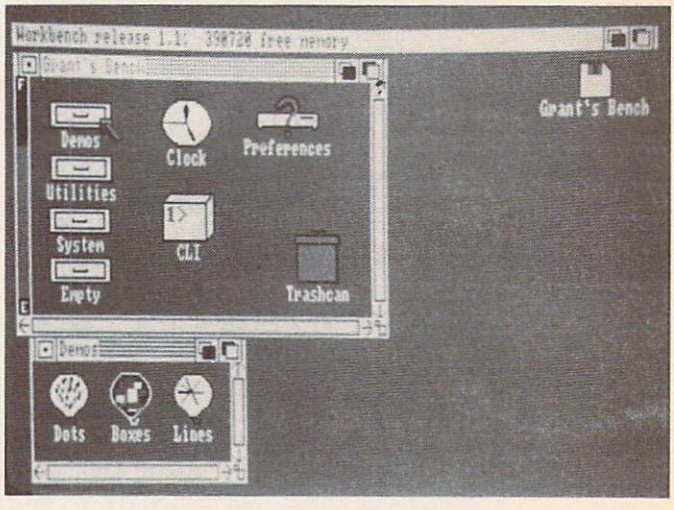
Complications quickly set in. First, the machine is off, or if on, it's in the midst of some unfamiliar program. You hesitate with thoughts of "I know it's not really breakable, but I don't want to somehow screw it up," or simply, "Where do I start?"

Resolving these questions soon becomes moot as the salesman introduces himself. Do I need to tell you about salesmen? At one extreme, you have the fellow who probably knows lots about the machine but stands there waiting uncomfortably while you struggle to translate your interest into questions. At the other, you find the sleazy predator who sees his job as removing all doubt that *this* is the machine for you. The first fellow would be helpful if you knew more about what you came to find out (Catch-22), and with the latter, the questions are all being asked by the wrong person, the salesman.

Even if you fight your way to the keyboard your objective in Plan A (remember Plan A?) is far from being achieved. Even with a machine as generous as the Amiga, there are bound to be some tentative moments as you feel your way around. For many, interacting with a computer is a one-on-one experience — almost intimate. Yet, the salesman will be there looking over your sholder, and nothing draws attention on a sales floor like a "test drive" in progress. (Oh look, Honey, they're going to do something with that computer.)

In the face of all this, it sometimes seems easier to take the machine home and learn about it there. Sleazy Sales knows this feeling well. He's sold a lot of equipment by capitalizing on it ("Hey, it'za great machine, your gonna love it!"). You've heard that the price of the Amiga is very good for what you get, but, unless you live a lot closer to Rodeo Drive than I, that price will still seem more like an "investment" than a "purchase".

As an alternative, we invite you to look over *our* shoulder as we explore the Amiga. Even if you have no intention of ever owning one, it *is* an



Typical Workbench screen with contents of Demos drawer visible. This particular workbench has been personalized with the author's own preferences.

interesting machine and illuminates the "state of the art". Of course, this is no substitute for a hands-on experience of the personal sort, but once you know something about the machine you can invite unhelpful salesmen to take a hike while you get to know the Amiga on your own terms.

Before We Start

I must tell you that your initial experience on an Amiga will not be the same reading about it. The Amiga speaks a visual language, and you know what they say a picture is worth.

Secondly, if you know "too much" about computers, your introduction may, paradoxically, be a slow one. Superficially, the operation of the Amiga is very simple. The illusion of simplicity is maintained by a large and complex operating system designed to do just that. Only a machine as powerful as the Amiga could levitate it to apparent lightness.

From such an elevation, it is a long, long way down to bits and bytes. My first few moments on an Amiga had me thinking about *how* each event was created and about the *real* meaning behind it. Someone should have told me not to look down.

How It's Done

My wife, not to be sexist about it, has a more intuitive approach. She watched my growing philosophical stupor until she could stand it no longer. Accepting what she saw on the screen as real enough, she put the machine through its paces. She is too kind to have said "Like this, dummy," but I got the message. She went on to spend more time with the Amiga those first few days than she had spent on our '64 in the previous three years.

My intent, in what follows, is to strike a median. The experienced are offered enough background detail so that they may relax and enjoy the show. The inexperienced are offered the same detail so that they might more fully appreciate the extraodinary events so effortlessly accomplished.

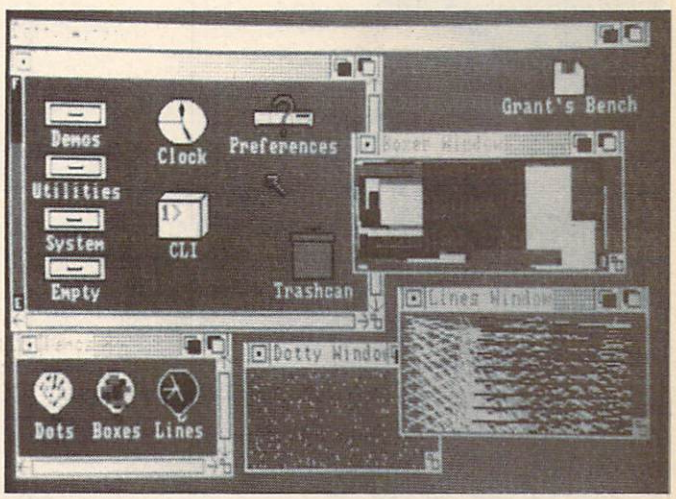
Power-Up

After switching on the Amiga (left side of main unit), there is a fifteen second delay as the power comes up and the machine goes through its initial house keeping. During this time you may insert a disk called "Kickstart". The Amiga uses 3.5 inch "micro-floppy" diskettes. These may look entirely too small to contain 880K bytes (over 900,000 characters) of storage, but they have a thick, rigid case and slide into the Amiga with a satisfying click. If there is more than one drive, use the one in the main body of the computer.

While this disk contains the heart of the operating system, the Amiga is already smart enough to prompt you with a picture of what it needs. The picture even shows you how to hold the disk so you get it in right side up when you put it in. The Amiga will know when the correct disk is in the drive (no, you don't "press RETURN" or, for that matter, even needed a keyboard). Give it the wrong disk, and it politely returns the picture prompt to the screen.

Once the correct disk is in the drive, the machine will load the core (or Kernel) of the operating system in a mere twenty seconds. Like most "big" computers, the Amiga's operating system is not in read-only-memory, but must be loaded each time the machine is started. There is always room for improvement in anything — particularly a system as young and complex as this one (you would need the memory of *four* Commodore 64's to house it). And besides, the Amiga is nothing if not expandable.

The program code in the Kernal embodies the information necessary for: disk control (beyond the boot routine that loads the Kernal), keyboard and mouse, graphics and text, serial



Workbench is displayed with three demos running in over-lapping windows. Dotty is the active window — its menu bar appears at the top of the screen.

and parallel I/O (input and output) and audio device functions. It also contains the "Exec" (executive) code that performs about the same function as the man in the control tower at the airport.

This twenty second chore need never be repeated while the computer is left on, and you needn't worry that you have lost *any* available memory. The Kernal loads into a special "protected" memory. When Amiga says that their machine comes with 256K of memory, they are not including this special memory in the total. It is protected in that, once the Kernal is installed, it is nearly impossible to alter — not by crashing programs or even a hardware reset.

A hardware reset can be initiated from the keyboard. On the '64 you hold down the RUN/STOP key and press RESTORE. The Amiga has two "logo" keys (similar to the "C=" key on the '64). These keys are located at each end of the space bar and have red "A"'s on them. No matter how crazy things get, you can always hold down these two keys and press CTRL (control). If you get tired of looking at some demo in the show room, the hardware reset will cause the machine to drop everything and return to the start up condition, awaiting your pleasure.

WE'VE GOT A NEW LOOK

Even though there are changes in the cosmetics of THE GUIDE, we will continue to provide you with the same reliable information you've come to expect

THE GUIDE

TO COMPUTER LIVING

Ready

When the Amiga has its Kernal in place, it will prompt you with a picture of a disk called "Workbench", but this is only a suggestion. Actually you have arrived at about the point where a '64 would say "READY", and you are about to make your first decision as an Amiga user. When loading commercial programs on lesser machines, you ordinarily expect it to take over the computer. Some Amiga software works in this way as well, and this would be the time for you to insert the disk containing it. Such a "take over" may consist of a single program or a system of programs.

The Amiga comes with an example of such a disk from Electronic Arts called "Kaleidoscope". There are two programs on Kaleidoscope. One is just a series of promos for Electronic Arts' products, but the other, called "Polyscope", demonsrates some of what can be done with the Amiga in 32-color, low-resolution mode. Absract designs evolve on the screen in a way that holds the eye with magnetic force. Survivors of psychodelia have to bite their lips not to say "Far out!" I particularly like to ask the techtypes if they "Want to see some pretty mathematics?" and then watch as they are struck dumb for minutes at a time by the display. Polyscope is the place to go to get your retinas massaged, but, for the present, we'll go with the Amiga's recommendation and insert the Workbench disk.

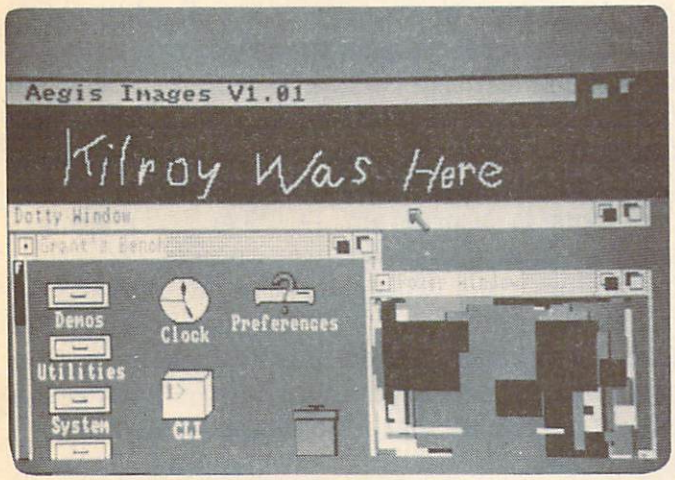
Workbench

While Workbench is loading, (read fast, it takes about 19 seconds) I'll tell you a little about it. Workbench is really just a program but it is intended to function as a user interface — an aid that makes it easy for the user to direct the machines activities (particularly disk functions). The Amiga has two such interfaces. This one is graphics oriented.

After some sign-on text telling you what version of Workbench you have, and a reminder to set the date, you see the bar at the top of the screen change from "Amiga DOS" to "Workbench release 1.1". You also see a caption

telling you how much memory is free (in bytes). Appearing in the screen below that is a little picture or icon in the corner of the screen. Pictured is a disk with a caption below it that says "Workbench". In much that appears on the Amiga's display, you will see text and pictorial information mixed. Truth is, the Amiga makes little distinction between text and pictures since *everything* you see is created with bit-mapping techniques. A character of text *is* a picture of that character; consequently, text on this machine comes in a variety of sizes and fonts.

The name of the disk from which Workbench just came is also called "Workbench". As we shall see, there are other things on this disk.



Workbench screen is pulled down to show Aegis Images' screen (a graphics program — see review in June). Aegis screen is also pulled down to reveal the blank screen "behind".

Enter The Mouse

Also on the screen is a little arrow — a "mouse cursor", and, someplace near the Amiga, you should find a small plastic object with two buttons and a wire tail — the mouse. Functionally speaking, they are connected. Move the mouse and the mouse cursor moves. Take the cursor for a quick run around the screen. Notice that its motion is very smooth. Notice also that the cursor's response is instantaneous. The innocent will simply accept this behavior as a given, and that's probably as it should be. But the more experienced will appreciate a hint of things to come — the machine between the mouse and its cursor is so fast that it is invisible. Not impressed? Stick around, you will be.

Putting The Mouse To Work

The two buttons on the mouse are named for their functions. The left one (the tail faces away from you) is the "select" button, and the right one is the "menu" button. To tell the Amiga that you are interested in something on the screen (and the object that it represents), you move the mouse cursor over it and press the select button. Press it a second time quickly and the computer will "load" what you have selected. Move the cursor over the Workbench logo, tap select twice, and a window entitled, naturally, "Workbench" instantly appears on the screen. As you watch, the window fills with captioned icons.

After you have made your selection, the mouse cursor turns from an arrow to a little cartoon cloud with "Z"'s on it. Although you can move this new shape around just as you do the normal cursor, it will not respond to the mouse buttons. This represents a sort of sleeping cursor as the system is busy working on your previous command and cannot yet begin a new task. The sleeping cursor will do many things for you, but opening another window is not among them.

What Has Happened?

You are looking at a sort of visual directory. By selecting the Workbench disk, you have told the computer you are interested in something that is on it, and the assortment of objects in the window represent the directory's contents. Several of these are drawers (titled "Demos", "Utilities", "System" and "Empty"). There is also a clock, a picture of a computer with a question mark superimposed called Preferences and, lastly, a Trashcan.

Some of these objects may represent programs, other kinds of files or, as in the case of the drawers, they may also be directories themselves. In fact, each of these dirctory drawers could contain more drawers, and so on to any depth you need. Before you get lost in a hall of mirrors thinking about that, let me simply say that about the only thing you can't put in a particular directory is anything that *contains* that particular directory itself. You can't put something inside of itself. (The Amiga knows enough to keep you out of such trouble.)

Amiga Creatures Great And Small

Unless directed otherwise, the Amiga will present nearly everything in windows. No matter how many windows appear on the screen, only one of these window will be "active". This active window is the only one that will, for example, accept information from a user.

Across the top of each window is a title (the un-used area to the right of which is filled with horizontal bars). The title bar of the active window is clearly represented, but the titles of non-active windows have a fainter or ghost-like image. To change your "attention" from one window to another, you merely move the cursor anywhere within the window and tap the select button.

Like objects on a desk, the windows are movable. Simply put the cusor on the title bar, hold down the select button and move the mouse. An outline the size of the window will follow the mouse about until you release the button. The window then reappears within the new outline. When one window is pulled over another, the Amiga remembers which was in front of which.

The Amiga literature calls the title bar a "gadget", and there are many different kinds associated with windows. Should a window that you wish to look at be obscured by one in front you can use the "front-" and "back-gadgets" at the right end of the title bar. Activate a front-gadget, and the window appears in front of all others. Back-gadget pushes it to the bottom of the "pile".

Window size can be changed by the size gadget in the lower right corner of most windows. Hold the select button down over this gadget, and an outline will follow mouse movement. Release the button and the outline is filled by the window.

Make a window too small for its contents and another set of gadgets, the "scroll boxes" can be used to tell the machine which portion of the window contents to display.

By the way, the orange bar on the left edge of the window with an "F" at the top and "E" at the bottom is a memory gage. Like the gas gage on a car, this gadget tells you how full or empty the disk is.

Top Drawer

The top drawer, "Demos", looks like it might do something interesting. Set the cursor over this drawer and tap the select button twice. Instantly, another window opens titled "Demos" and fills with three icons. "Demos" was a sub-directory, and the balloon shaped icons are demonstration programs. (Balloons? I don't know. Cute and friendly, I guess.)

Get a grip on your mouse now. Things are going to get interesting in a hurry. As quickly as we can point and shoot (actually "double click"), we can set the three demos running, in human terms, *at the same time*. As we click-on, or activate, the demos (called "Dots", "Boxes" and "Lines"), three windows will pop open on the screen.

These windows open "on top of" the other stuff already on the screen. The analogy here is what happens when you run out of space on your desk for the number of things you are working on. You pile it one piece on another with, perhaps, a corner visible for retrieval. The demo writers made these particular windows small so that you could easily see where you've been, but the many gadgets on these windows make moving and viewing them child's play.

Dots is a program — "Tool" in Amiga-speak — that randomly turns on pixel-sized dots in random color within its window. Boxes produces rectangular areas of the same four colors (the Workbench screen has four colors). Resizing this one to cover the whole screen yields a phrenetic display that is so fast it seems impossible at first to credit to bit-mapping. "Lines" rotates through the same four colors as it connects, with lines, two end points that move in a semi-random fashion within the borders of the window.

The Terminator

Now that we have the screen alive with running programs, it is time to tell you about one more gadget, the "close gadget. This is a small box with a dot in it at the left end of the title bar. Zap this one with your cursor, and the program terminates, closing its window. But — *before* you close all these programs — I promised you'd be impressed . . .

Windows (of which we now have five) open in screens, but the Amiga may use *many screens* simultaneously! Want proof? (Say yes . . . it's fun.) Well, there is a title bar at the top of the Workbench screen itself. If you like, you can grab this bar with your cursor and drag the entire screen out of view. And, with demos running and

all, you can move it as *fast* as you can move the mouse! If there had been another screen in use, it would have been revealed as Workbench slid away. (If you're not impressed by *that*, you had better check your pulse to see if it's still there.)

Bar Menu

Now that you've found the bar at the top of the Workbench screen, it would be a good time to try out the mouse's other button — the menu button. Windows come with a variety of attributes (such as different kinds of gadgets); some windows have menus. If, for example, you were to make the Demos window the active one (just click your mouse anywhere inside it), you would find that it has a menu.

Press the right-hand mouse button and three menu captions appear in a bar across the top of the screen. They are: "Workbench", "Disk" and "Special". Each of these is actually a menu heading. Move the mouse cursor to the Workbench heading, and you will see a list pop down from it.

Now you are working within Workbench. These commands available to you are listed on the pop-down menu. You may have it "Open", "Close", "Duplicate", "Rename", "Discard" a selected object, or just give you "Info" about it.

The part of the menu that the cursor is near is highlighed, and will be carried out if the menu button is released while it is so highlighted. To avoid making an unwanted choice (or any choice at all), simply move the cursor away from the menu before releasing the button.

Items on the menu that are not applicable to the given situation are ghosted and will not highlight. Disk and Special have to do with disk activities and a variety of assorted commands, respectively.

The demos, on the other hand, have not been provided with menus (it is the programmer's prerogative.

We've Only Just Begun

All that we have done in this article is open a Workbench screen, look in one of its many drawers, and run the simple demonstration programs found inside. There is much else of interest in Workbench.

The "Preferences" object mentioned earlier is a program that allows you to reset some of the Amiga's default settings. Workbench is a four-color screen, but *which* four colors is up to you. You have a choice of 4096 to work with, and can mix red, green and blue with slider-gadgets until you find the ones you like.

Sliders also control the behavior of the keyboard (which we have yet to use!). Both the amount of time a key must be depressed before it begins to repeat and the speed of that repetition can be adjusted over a wide range. The responsiveness of the mouse (how far it must be moved to produce a given cursor movement) can be set. Even how fast a "double-click" must be to be a "double-click" (as opposed to two single clicks that just happen to be over the same object) can be defined.

The centering of the display on the monitor can be controlled; the date and time, as well as the baud rate for serial I/O, can be set — even the characters per line (CPL) can be changed from 80 to 60 (necessary if your using a TV).

Printer types and parameters can be changed through Preferences. The majority of things people do with printers can be controlled here. It is even set up for *color* inkjet models.

We have been talking about the mouse cursor as an arrow, but Preferences has an editor that will allow you to design your own. Your preferences can become a permanent part of Workbench if you like.

Timely

Select the Clock icon and the Amiga will put one on the screen (with or without a sweep second hand). There is also a menu with the clock, displaying options that include: digital or analog display, 12- or 24-hour format and even an alarm.

Systematic

In the System drawer, you will find a couple of items for initializing (newing) and copying disks, and an editing tool for making your own icons.

Noteworthy

The drawer called "Utilities" contains a fourteen-digit calculator with four functions. You can push the buttons with the mouse cursor or the keyboard.

Also contained here is a "Notepad" that prints on screen or printer in seven fonts (some of them in as many as four point sizes). Bold, italic and underlining are supported in all fonts, and memos can be edited and SAVEd, of course. Amiga books call programs like this "tools" (what else do you use on a workbench?), and the things it produces, memos in this case, are called "projects".

Trashcan

The trashcan icon is a repository for the unwanted, but gives me an opportunity to tell you a little about the Amiga's slick manner in working with files. In the same way that you can grab and move a window, the Amiga will let you grab an icon.

No use for a clock? Move the cursor over its image, hold down the select button and move the cursor over the trashcan. The cursor goes to sleep for a moment, and poof no more clock. But the Amiga is a gentle and forgiving creature. The clock is not really gone — yet.

Open the trashcan (window) with a double click, and you will find the clock icon. To get the clock out of the trash, you grab it with the cursor and move it out of the trashcan window and back into the widow it came from (or any other). The clock will be as good as new.

There is a menu item, "empty trash", however. Had you selected it, with the clock in the can, it would be gone forever.

Pictures aside, the Amiga is moving the clock's code from area to area within disk storage. Moving objects about in this way is so easy you may wonder at first if it is really happening. It is.

Commencement

We have had brief look around at the Workbench interface. As I said earlier, there is another interface, the Command Line Interpreter. This is a textual method of communicating with the Amiga. But that is a subject for next month.

■

STARPOINT SOFTWARE proudly presents

ISEPIC

+ + + + + + =

[say Icepick], a revolutionary new concept in software de-protection for the Commodore 64. ISEPIC is not a disk duplication system, but an extraordinary hardware/software combination that actually bypasses any disk protection scheme. ISEPIC captures and saves the protected program as it runs in the 64's memory, this "snapshot" becomes accessible to the user for complete inspection and alteration. From this image, ISEPIC can automatically create a compact, auto-booting, fast-loading file which is completely unprotected and self contained.

- ☆ Copies ALL memory-resident software
- ☆ ISEPIC'd programs load many times faster than originals
- ☆ ISEPIC is invisible to software—cannot be defeated
- ☆ Eliminates drive "knock" due to antique protection schemes—adds years of life to your drive
- ☆ Automatically "cracks" protected programs into single, auto-booting, super-fast loading files
- ☆ Place multiple programs on a single diskette
- ☆ Create auto-booting, fast-loading versions of your own programs
- ☆ Cracked programs are completely self-contained and run independently of the ISEPIC adapter
- ☆ Copies software with a flick of a switch
- ☆ ISEPIC comes complete and ready-to-run, just plug into expansion port
- ☆ Programs cracked by ISEPIC may be used on MSD or 4040 drives as well as hard disks regardless of original protection schemes

When ordering by mail:
* $64.95 + 3.00 shipping
* $64.95 + 4.00 COD orders
* Calif. residents add 6% sales tax
* VISA or Mastercard accepted
* Shipping out of USA $6.00

Please allow 4-6 weeks for delivery.

. . . WRITE OR PHONE . . .

STARPOINT SOFTWARE

Star Route 10 Gazelle, CA 96034 [916] 435-2371

The Guide TO COMPUTER LIVING

A Monthly Publication For Commodore™ Owners

Formerly The Northwest Users Guide

Commodore support with a twist ... Personable and even humorous ... Timely news ... Helpful tutorials ... On-going support for several languages: BASIC (including BASIC 7.0 as featured in the new 128 PC), Machine Language, COMAL, Pascal ... Program Listings ... *Honest* Software reviews ... and much more ...

The Guide features some of the best computer humorists to be found.

- Introduce your "widow" to the Computer Widow's Compendium.
- Tutorials and feature articles by the infamous Mindy Skelton.
- Featuring Shelly Roberts' "I'm Sorry, But I Don't Speak Hexidecimal." Discover why Shelly just may be the Andy Rooney of the computer world!

We feel we have assembled one of the most talented staff of writers in the Commodore world. Receive each month the most friendly and helpful Commodore publication available. Written by Commodore users who are writing to you, not down at you.

Limited offer — While Supplies Last

Receive FREE High Quality Software with Each Subscription

One Year.....$18.00
(Canadian Rate–$24.00 U.S.*)

Receive FREE Either:

Omiterm Terminal Program

Fully supports the new 1660 Modem 300!
- Modem controls accessible from the keyboard
- Punter protocol — upload & download — 300/1200 baud
- Auto dial/re-dial
- Half/full duplex

$19.95 value.

OR:

Gold Disk

Choose one of the popular Canadian series disks — Each disk contains:
- Programming Tutorials
- Games
- Utilities

Top Quality Software!

$14.95 value.

Two Year.....$35.00
(Canadian Rate–$47.00 U.S.*)

Receive FREE Either:

Donald Duck's Playground

CES Software Showcase Award Winner! — Disney animation at its best! Children play four games to "earn" money to buy playground equipment. Builds money handling skills. Superb graphics. A bestseller!

$29.95 value.

OR:

Winnie The Pooh In The Hundred Acre Wood

Players explore the Hundred Acre Wood to find lost articles like Owl's books, Pooh's honey pot and Eeyore's tail, and return them to their rightful owners. Cheery music from the Disney movie caps off this computer rendition of the beloved classic.

$29.95 value.

Three Year.....$48.00
(Canadian Rate–$64.00 U.S.*)

Receive FREE:

Mind Prober

A personality program analysis program that helps you understand what makes your friends "tick". Answering a few simple questions about someone can reveal personality traits you might never have suspected. Amazingly accurate.

29.95 value

*** Canadian Orders Add $2.00 to Cover Software Shipping**

The Guide
3808 S.E. Licyntra Ct.
Portland, OR 97222
To Order by Phone, Call: (503) 654-5603

Name _____

Address _____

City, State & Zip _____

Please Enter My Subscription for:

☐ 1 Year ☐ 2 Years ☐ 3 Years

Please Check One: ☐ New ☐ Renewal

☐ VISA ☐ MasterCard

Card # _____

Exp. Date _____

Signature _____

My choice of free software, in accordance with the above offer, is:

_____

_____

Amiga:

Speed Through Multi-Processing
Power Through Multi-Tasking

by Wesley James

Outside the world of Commodore computers, in the land of the Mini, Super-Mini and Mainframe Computers, three terms are often bandied about. Those terms are Multi-User, Multi-Tasking, and Multi-Processing. These terms are frequently heard in the same breath as 'task scheduling' and cryptic acronyms like JCL, RTE, and LAN. I'm not planning on defining all these terms for you in this article. You don't care, anyway, or you would have looked them up in a computer dictionary. There are, however, two in the group that are important to you or will be if you are an owner or potential purchaser of Commodore's new wonder machine, the Amiga.

We can begin by defining terms and then go on to see why this information is important:
Multi-Tasking — The ability to perform more than one task at the same time. Like walking and chewing gum. Human beings can be said to be Multi-Tasking machines. We have only one brain, but we can perform multiple tasks simultaneously, or at least some of us can.
Multi-Processing — The coordinated use of more than one processor at the same time to accomplish one or more processing tasks.

A rowing team would be an example of a group of processors (people) working together to accomplish a single task. An example of more than one processor working on different coordinated tasks is more difficult to find. A group legal practice where each lawyer works on his/her own aspect of a case but share resources such as secretary, law library and documents is as close as I can come to an example.

Speed through Multi-Processing

How, you may ask, does all this relate to the Amiga? I'm glad you asked. It all comes down to Agnes, Daphne, Portia and the Motorola 68000 and how they all cohabit. No, this isn't an X-Rated tale about three ladies and an electronic device, although, that might be an interesting idea.

Agnes, Daphne and Portia are dedicated VLSI processor chips that handle animation, graphics and sound respectively in the Amiga. Since all three work independently while sharing the same memory, address and data lines, and do it in a manner that insures that they stay out of each others' way, they free the 68000 from the jobs that they handle and therefore allow the 68000 to utilize its 7.15 Mhz clock speed for tasks for which it is better suited.

The result is that the Amiga is the fastest microcomputer ever released to the market by any company at any price. This Multi-Processing design gives Amiga the highest resolution (640 × 400 with 4096 colors) of any mass-produced micro today. It allows the largest memory (8.5 megabytes available to the operating system) and it brings it all in *cheaper* — at $1295 for the basic system including an 880K, 3½ inch disk drive, 256K of memory and a mouse (monitor not included).

Power through Multi-Tasking

The single most important thing about the Amiga and AmigaDos is that it is a multi-tasking operating system.

The graphics and sound are great but the breakthrough is not in that area. If all you want is a graphics machine the Atari 520 ST is nearly as good (for static graphics, not for animation) and it's cheaper.

As good as the sound on the Amiga is it's no match for a Yamaha DX-7. The number of users who need the Amiga's animation capabilities, impressive as they are, are limited. They make the Amiga an incredible, albeit expensive, game machine. I don't know of many people who will need an 8.5 Megabyte or a $1295.00 game machine even with built in-speech ability.

The fact is that while Commodore is doing a lousy job of selling it, the most important, persuasive, tangible, new feature of the Amiga is it's multi-tasking ability.

Who needs Multi-Tasking?

If you're an average home user who uses a computer for a bit of word processing, a little data base management, a game here and there and Christmas cards, shopping lists, balancing your checkbook and educational programs for the kids, you don't need a multi-tasking computer. If you use your computer for business all day five days a week for roughly the same tasks, you probably *do* ! Let me paint you a picture of a typical day.

9:00 am — Your secretary turns on the computer, loads your favorite word processing program, and begins typing letters while having coffee.

9:15 am — You're trying to determine whether there is sufficient cash on hand to pay for the current order of widgets or if you need to transfer funds or delay receipt of the order or whatever. You buzz your secretary to ask for the current checking account balance as of yesterday's deposits.

9:16 am — You've got an answer and your secretary is back typing away because you don't have to get out of the word processor to get the balance, just open a window, read the checking balance file, close the window, and continue the letter.

9:30 am — You get a call from your best client. They want to see you for lunch. You think you have an appointment at 1:00, but, wait a second. Buzz and your secretary has your appointment schedule on the screen while a letter is being output to your printer. Oh, 1:00 is fine — your other appointment is at noon.

10:30 am — You need a list of all your customers who have receivable balances older than 90 days so you can get the money to pay for that widget order. There are still letters being written and you'd really like a cost analysis on your best client jobs so that you'll know what your talking about at that luncheon meeting. *No problemo*, three windows, three jobs and twenty minutes later you have a 90-day receivable aging statement, a cost analysis and a pie chart to illustrate the whole thing. You also have a list of those late paying customers' phone numbers, in order by area code. All the time the letters keep rolling out.

I could go on, but I think I've made the point. If this scenerio sounds like your office, stop screwing around and buy an Amiga.

BUT ...

But, before you do, you should know that there is, along with all of this glorious capability, one very serious, alarming problem. No

ATI TAKES THE FRUSTRATIONS OUT OF USING YOUR COMPUTER BY PROVIDING YOU WITH QUALITY SOFTWARE AT AN AFFORDABLE PRICE.

"BITS AND PIECES" ™ – Disk Utilities $29.95

• Sector Copy a Disk • Back-Up Copy "Whole Bit" Disk Series • Program or sequential file copy to disk & conversion of program files to sequential files • Check track and sector for errors • Examine contents of a file, block by block in HEX or ASCII • Modify contents of a block • Check whole disk for errors • Save Disk Utilities onto disk • SCREEN-DUMP Hi-Res Graphics and Characters to printer using any selected memory locations • MULTI-COLOR SPRITE MAKER • Quick program (Machine language or Basic) transfer to another disk • Provided on diskette in a plastic library case with instruction manual (for Commodore 64™; 1541 & MSD single & dual drive)

"THE WHOLE BIT" ™ – Word Processing $24.95

• MENU-DRIVEN • 80 column view screen • On-line HELP Screens • Enhanced cursor movement • Supports major printers by Menu Selection • Ability to custom tailor print commands • Tab-setting 240 columns to screen • File copies printed in any sequence • Sequential page numbering from one file to another • Screen and character color selectable • Menu selection of disk files • Global search and/or replace • Block move/copy • File merge • Horizontal/vertical scrolling • Left, right, block justification • Sub/superscript • Block erase • Header/footer/page numbering • indentation • Search/replace defined phrases • Text Centering • and more . . .

• PROVIDED ON DISKETTE WITH USER'S MANUAL IN 3 RING BINDER (C-64) $39.95
• EXTENSIVE MANUAL ON DISK - FOR YOU TO PRINT OUT (C-64) ONLY $24.95

"FILE CONVERTER" ™ –File Transfers $39.95

• FILE CONVERTER: Allows the transfer of files between the popular data base programs; Manager™, Flexfile™, Superbase 64™, Practifile™, Silicon Office™, and others. Program, sequential, or relative files may be converted to a differing type including PET to ASCII or Screenpoke, and vice-versa. Will convert fixed or variable files. Files from any data base may be merged into "THE WHOLE BIT" ™ word-processing. • Allows the transfer of text files from one word processing program to another; undefined control codes can be ignored or deleted • FAST DATA BASE ENTRY; Creates a sequential data base file of up to 32 fields per record; a very fast data base entry program useful for entering large mailing lists, etc.; can be easily converted to your specific data base using "FILE CONVERTER" • READ RELATIVE; Allows viewing or printing of any selected relative file record (PET, ASCII or Screenpoke form) • Provided on diskette in a plastic library case with instruction manual (for Commodore 64 and PET series computers)

"U.S. Commodore User's Group Approved Programs"

MASTERCARD/VISA
(207) 439-5074

Applied Technologies, Inc.
Computer Products Div.
Lyndon Way
Kittery, Maine 03904

Dealer & Distributor Inquires Invited

other author has had the courage to address the problem, but, I will.

Where's the [STOP] key? The colors are fine, the animation is of commercial speed and quality, but where's the [STOP] key?

Let's see: ten function keys, a [HELP] key, two [A] (Amiga) keys, one [ESC], [CTRL], [BACKSPACE] and a [CAPS LOCK] key, 89 keys but no damn [STOP] key.

What kind of machine is it that has notably better resolution than any broadcast television signal and nearly twice that of most consumer VCR's, but no [STOP] key? How could they build a machine that runs up to ten times faster than many of its rivals and not include a [STOP] key?

How can all these reviewers rave about a machine without a [STOP] key? How could they say things like, "I have seen the Amiga ... I want to lock myself in a room with one (or maybe two) and spend the next year or so discovering just what this machine is capable of," or, "This is the micro I've been waiting two years for the world to produce ... Amiga does things that other micros can't do ... "? Don't they realize that there's no [STOP] key?

I've seen the Amiga, run my hands lovingly over both buttons on its mouse. I've seen **Kick Start**, **Workbench**, and **Intuition**. Sure, the Amiga's incredible, but with no [STOP] key, I just don't know.

The software will come. A year from now, Amiga will be a household word in spite of Commodore. It will be copied like the Apple and software will be re-ported from the Macintosh with its 68000 and the DEC VAX which has a similar processor. UNIX will be implemented along with MS-DOS, and CP/M. The 68000 will never be as capable at number crunching as the iAPX86 family of chips used by IBM, but the small business market shouldn't care. The small business market will be dominated by the 68000 family of chips. Businesses that require multi-user, multitasking may migrate toward the 80386 based systems with 64 TeraBytes of memory accessible, when they're available. Smaller businesses will settle for 8.5 Megabytes.

A large number of you may be saying to yourselves, "I don't use my computer for business applications. I'm a home computer user." You may be asking yourselves, "Do I need an Amiga? Do I need a 128? What do I need?" Well, speak up and ask and let's see if we can find an answer.

The answer is often very easily arrived at, but it requires that you answer some questions about the way you use or will use a computer. The question is easier to answer for potential 128 buyers than it is for prospective Amiga purchasers.

I should add my own bias here. I am a software developer, and I benefit from a healthy micro industry and a healthy micro industry is a buying market. Nonetheless, I can provide you with some guidelines that will help you determine what you need.

I divide computer users into categories. Student programmers, programmers, advanced programmers, novice users, applications users, and advanced users.

If you're a student programmer or novice user, then the 64 is fine for you. You needn't consider the 128 or the Amiga for any reason except wanting one. You definitely don't need one.

If you're a programmer or applications user, you still don't need either machine unless you find yourself running up against the limitations of your machine. If you have an extremely large data base, enormous accounts receivable files, or memory-intensive spreadsheet jobs, you may be a candidate for a 128; or, you might only need an SFD 1001 (1 Megabyte Disk Drive). You don't need an Amiga for those jobs. Even in a case where you determine that you *do* need a 128, I'd wait until the 128 software hits the market before I'd plunk down my money. The 128 does appear to be selling fairly well, so software should be forthcoming. If you're a programmer, the 128 may be a good bet right now. BASIC 7.0 is slow, but it's easy to use. You can probably use your 64 assembler package to develop whatever ML code you need.

Other language implementations are unlikely to work in 128 mode. So, if you're a PASCAL Pundit or a FORTH Freak you may have to wait a while. As far as the speed of BASIC 7.0 goes, both Abacus and Skyles have announced compilers for the 128 which should solve the speed problem. In the interim, programs written in the FAST mode on the 128 are close to acceptable in speed for most applications.

CP/M is a totally different world to folks who are accustomed to the Commodore user interface and CP/M has lost its dominance in the software marketplace to MS-DOS. I don't expect to see a rush to port CP/M software over to the 128.

Getting back to the issue at hand. If your principal use for a computer is graphics, forget the 128 — the Amiga is the way to go. The same is true for sound enthusiasts. I've discussed the small business user at some length already.

That brings us to advanced users and advanced programmers. The advanced user has many of the same considerations as the normal applications user, but read on.

For the advanced programmer, I don't think there's much choice. If you're going to develop creative, innovative products, the Amiga is the place to do it. I'll quote G. Michael Vose, Senior Technical Editor for *Byte* Magazine, "I expect the innovations in software that will keep our industry vital to originate on 68000 machines". Remember that it was Motorola's philosophy, as stated by Thomas W. Starnes, that they would, "design it (the 68000) for programmers, to make their job easier by providing functions in a way that most programmers could best use them." How can a programmer *not* love such a design philosophy? So, for the advanced programmer, the Amiga is a must.

That leaves the field like this:

Student programmers & novice users	Commodore 64
Programmers & Applications users	Commodore 64/128
Advanced users	Commodore 64/128/Amiga
Advanced programmers	Commodore Amiga

Thus, some of you have a definitive answer. The 64 is all you need for now, and probably quite a while to come. Potential 128 buyers have a more difficult, but none-the-less possible, decision. Prospective 'Amigaphiles', think [STOP] key.

Not all the words I've written may come true. The future is always somewhat uncertain. One thing cannot fail to be true. If the Amiga doesn't make it, the small business market will be set back at least three to five years. IBM, its PC, XT and AT, and the rumored PC-II, may flourish but they will scarcely touch the untapped small business market. Every retail store, doctors office, restaurant, and service business from abattoirs to zipper-fixers is a potential customer.

It's already off to a respectable start. Commodore stated 70,000 units sold by year's end. If Commodore and the Amiga can't find a healthy piece of the small business market, I don't think that market will be tapped in the foreseeable future.

So, appraise your needs honestly, and then buy what you need. I need a [STOP] key, so I won't buy an Amiga. If, however, someone would like to give me one, I might be willing to build an external [STOP] key. Then I could say, "The future of computing is upon us, and its name is AMIGA!!!"

©1985 by W. James. All rights reserved.

■

Editor's Note:

I, too, looked for the [STOP] key. I found none, and just went on loading and running demos and programs until I ran out of memory and the operating system crashed (no longer a problem with the system in current distribution). I had so many things going, I even had several copies of the same *program running simultaneously in there. I gotta tell ya', I felt like the sorcerer's apprentice — up to my you-know-what in bucket carrying brooms and no way out! But what does it mean, on a multi-tasking machine, to say "STOP"? (or even "STOP!!"). Stop what? Which program or process?*

As you know, the Amiga offers at least two ways to terminate a program: Zap its window's "Close Gadget" with the mouse, or terminate various tasks one at a time through the CLI (Command Line Interface). I did *find the [STOP] key. It is on the left side of the computer, and has been mislabeled "ON/OFF".*

— Technical Editor

Computer Widow's Compendium

by Lyn Chase

Every now and then I hear strange telephone conversations taking place. Such phrases are spewed out as, "Did you give it a SYS command?" and, "Do you happen to know the ASCII value for the asterisk?" It sounds as if hubby has recently joined the militant underground to fight crime, corruption and bad disks.

But, in fact, these terms and *many* more like them are just a part of the lingo that hackers use to communicate. Let's talk about a few of these phrases today, so that next time you hear your household hacker conversing mysteriously on the phone, you can have some idea whether to prepare for a revolution or a new game.

To be able to give you even a brief explanation of what some of these phrases mean, we have to talk a little about the guts of the computer. When we talked about its innards about a year ago, I wrote that the Commodore 64 has 26 silicon chips in it — give or take a few. Some of these chips (primarily the eight that make up the computer's memory) have spots on them — 65,536 of them. (That's two to the sixteenth power.)

Anyway, each of these 65,536 spots has a message in it that, with a little prompting from the hacker, makes the computer do a particular thing. And each of these 65,536 spots has a number assigned to it. I suppose that one can use these spots in a passel of different ways, but I have company coming to dinner tonight and I just don't have time to figure it out today. But if *you* figure out how to use those spots, I can tell you how to send a calling card to each one you wish to use.

The first way to send a calling card is to type the word PEEK and the number of the particular spot that you want to call upon. (If your hacker had to take time out to mow the lawn and forgot what is in each of the 65,536 spots, there are books with maps of these spots. In these books, a spot is called a "memory location". I assume that these books have both the number and the message for each spot, but I can't say that I've ever had time to check.)

Well, typing PEEK and the appropriate number lets a body see what message is in that spot to see if it's of any use. Since these spots have numbers assigned to them (like houses) hackers call them addresses.

The second way to send a calling card is to type the word POKE and the appropriate address. This lets the hacker find the spot and give it a little poke (pardon the pun) to make it *do* whatever it is that that spot is supposed to do — like changing the colors that you see on the screen — or making the monitor or television sing to you. It is possible (although it would probably take years) to make the computer sing a particular song using POKE commands. So next time hubby pulls himself away from the computer in the hopes of a little romance, look deeply into his bloodshot eyes and say, "Show me that you love me, Honey. POKE 'our song' into the computer."

Speaking of PEEK and POKE commands, there is another type of command you've probably heard bantied about — SYS commands. This is newspeak for system command. When your computer enthusiast types SYS and one of the 65,536 addresses, the computer goes to that spot and does its thing without any further pro-

mpting. Do not ask me what this means. I don't know. Perhaps this is how baby computers are made.

While we are on the subject of SYS, I want to mention a term that sounds like it should be related but isn't. One day I saw a magazine that had an article entitled, "So you want to be a SYSOP". I had never seen the phrase before and thought it had something to do with animal husbandry. But I learned that it stands for "system operator" and has *nothing* to do with memory locations, PEEKs, POKEs or SYS commands. SYSOPs run bulletin boards on their computers, using a modem to connect the computer to the telephone. And they say English is a hard language to understand ...

I've one more phrase to define for you today. I had to save this one for last because I had a lot of trouble finding out what it stands for. The "word" is ASCII and it stands for American Standard Code for Information Interchange. When people "who know" say the word, they say "asskey."

I'm told that this code is universal — for most computers. (If it doesn't include all computers, can it be universal?) Anyway, every time a letter, number or symbol is typed, the computer is so smart that it can't read it. It has to translate it into its own vernacular — numbers. So, for every letter, (both upper and lower case), every number and every symbol on the keyboard (even the ones on the sides of the keys), there is a numeric code. This helps to enable computers of different nationalities to talk to each other.

But, there's a fly in the ointment! Commodore computers have a different code — CBMCII (Commodore Business Machines' Code for Information Interchange). (So much for "universal.") Sometimes one code has to be converted to another. I never liked anagrams. And I never liked cryptograms. Acronyms, however clever, rarely (if ever) excite me. So, on the subject of ASCII and CBMCII, I yield to those who need to know !

Time to start mashing the spuds. See you next month.

The ONLY "Official" Computer Widow's T-shirt is NOW Available

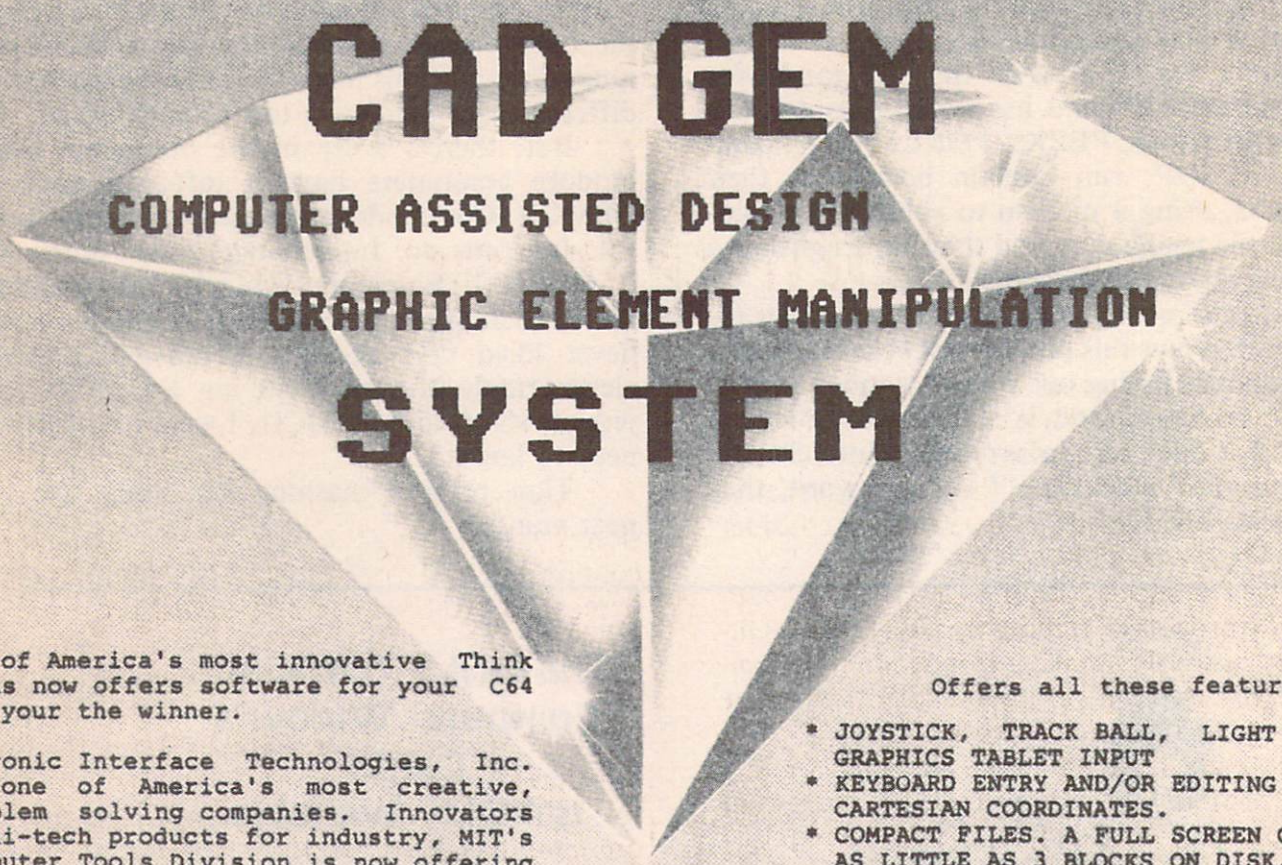
Only $9.95

plus $2.00 S & H

The Guide to Computer Living
3808 S.E. Licyntra Ct.
Portland, OR 97222
(503) 654-5603

Computer Widows Can Be Hackers, Too!

MIT OFFERS C64 SOFTWARE



One of America's most innovative Think Tanks now offers software for your C64 and your the winner.

Micronic Interface Technologies, Inc. is one of America's most creative, problem solving companies. Innovators in hi-tech products for industry, MIT's Computer Tools Division is now offering software of incredible power at astoundingly low prices.

Computer Tools was founded by software pioneer, Wesley James, the inventor of Program Development Language, the most effective software development environment developed in the last 20 years.

Their first product for the C64 is now available.

Imagine, all the power of a $15,000 CAD system at only $89.95.

Offers all these features:

* JOYSTICK, TRACK BALL, LIGHT PEN OR GRAPHICS TABLET INPUT
* KEYBOARD ENTRY AND/OR EDITING OF TRUE CARTESIAN COORDINATES.
* COMPACT FILES. A FULL SCREEN OCCUPIES AS LITTLE AS 3 BLOCKS ON DISK.
* 360 DEGREE ROTATION IN .1 DEGREE INCREMENTS.
* SCALING, DISTORTION, & TRANSLATION TO .0001 DEGREE ACCURACY.
* 64K X 64K X 64K, 2048 MEGABIT VIRTUAL SCREEN RESOLUTION.
* INDEPENDENT MANIPULATION OF 400 OBJECTS (500 POINTS OR LINES).
* SINGLE, DOUBLE, & QUAD DENSITY SCREEN DUMPS ON APPROPRIATE PRINTERS.
* SCREENS ARE USEABLE IN YOUR PROGRAMS AND ALL OTHER GRAPHICS PROGRAMS.

IDEAL FOR PROFESSIONALS OR HOBBIEST

WOODWORKING BOAT BUILDING ELECTRONICS MODEL MAKING METAL WORK
TOOL & DIE WORK HOME DECORATING INTERIOR DESIGN
MOLD MAKING GRAPHIC ARTS PATTERN MAKING ETC, ETC, ETC

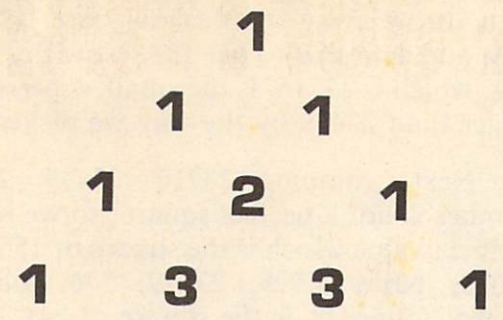
BEN DUNNINGTON-INFO 64-"We were quite impressed".

PETE BACZOR-CBM USA-"The most amazing software I've seen this year(85)"

$89.95 – Complete System $3.00 Demo Disk Only

Available through your local Commodore software dealer.

Dealer Inquiries Welcomed! (503) 654-2641



PASCAL'S TRIANGLE

by Carmen Artino

Factoring Integers

Everyone knows that $21 = 7 \times 3$. In an example such as this, 7 and 3 are called the FACTORS of 21. There are other factors of 21, such as 1 and 21 (because $21 = 21 \times 1$), but these are often referred to as the trivial factors — we will not consider them.

In this month's column, I would like to discuss the process of finding the factors of an integer; *i.e.*, a whole number. In next month's column, I will discuss a very good reason why one might want to find such factors.

You might have the impression that finding the factors of an integer is a simple but somewhat tedious process; for example, if you are required to find the factors of 39, you might start by dividing 39 by 3 (we eliminate 2 immediately because 39 is not even). In this case, we are successful on our first try! $39 = 3 \times 13$.

But, what if we are required to factor 13081? If we use the same process, it is not until we reach 103 that we are successful; in this case $13081 = 103 \times 127$. We would have had to perform 101 divisions, assuming we started with 3 again. That is a tedious process *if* we work "by hand". But, of course, we all have computers (with Pascal compilers!) so why not let our little wonder machines carry out this task for us?

Here is some Pascal code that implements this process; it assumes that the VAR n:INTEGER contains the integer to be factored while the VAR d:INTEGER is the divisor:

```
d := 3;
WHILE (n MOD d) <> Ø DO d := d + 2;
```

The code is brief and to the point; it says,

"WHILE d does not divide n evenly, increment d by 2 and try again".

We have even reduced the number of divisions by eliminating the even integers (assuming n contains an odd integer, which we shall do from here on. Later, we shall deal with the even integers also).

We could even reduce the number of divisions further by requiring that d only take on PRIME numbers (you remember those, the ones that have no factors except for the trivial ones, like 2, 3, 5, 7, 11, . . .). Of course, that would require more code just to find the prime values for d!

The main problem with the above two lines is that they waste a lot of computer time. "So what?" you might say. "I can wait, I certainly wait long enough for my 1541 to load my programs so I'm used to it." True (damn it) but that's not the point.

A computer like the C-64 and other 8-bit machines can handle up to a five-digit integer (MAXINT = 32767) and even 32- and 36-bit mainframes can only handle up to 10- or 11-digit integers without special programming. But in the applications I'll mention next month, we're talking about factoring integers with an order of magnitude of 10^{100}! That's an integer with about 100 digits. A quantity of that size is awfully difficult to imagine!

Notwithstanding the fact the special code would have to be written to handle integers that large, using the above code to find its factors is

laughable — it would take trillions (no joke) of years even on the fastest computers to complete the task! Which brings us to the point of this month's column: are there any other, perhaps faster, ways to factor an integer?

The answer is, of course! Do you think we would ask such a question without having an answer? The method I would like to present is based on a method developed by Fermat and communicated to Father Mersenne; historically, it was the first practical alternative to the procedure given above. (You remember Fermat and Mersenne — they were buddies of Pascal.)

It goes like this: if an integer can be factored, then it can written as the sum of two perfect squares. For example, 39 can be factored as 3×13 and $39 = 64 - 25$. Notice that both 64 and 25 are perfect squares.

What, you may ask, does that have to do with 39 and its factors? Well, 64 is the square of 8 which is $(13 + 3)/2$ and 25 is the square of 5 which is $(13 - 3)/2$. This sum and difference relationship is no accident, and is true of any number that can be factored; try it with the factors of 13081 given above and you'll see that it works.

Note that it works the other way around, also. If a number is the difference of two perfect squares, it can be factored easily. For example, $56 = 81 - 25$, and we note that 81 is the square of 9 while 25 is the square of 5, so $56 = 4 \times 14 = (9 - 5) \times (9 + 5)$. Note again the sum and difference relationship!

Here, then, is the heart of Fermat's method. Suppose n is the integer to be factored (remember that n is assumed to be odd). If we could find two other integers, say x and y, so that n is the difference of the square of x and the square of y, we could factor n as easily as we factored 56. If we were able to find such integers, then we could write,

$n = x^2 - y^2$ or, $y^2 = x^2 - n$.

This simply means that we should search the list of numbers, $k^2 - n$, $(k\ 1)^2 - n$, $(k\ 2)^2 - n$, ... until we find one that is a perfect square.

This value will be our value for the square of y; the value for the square of x will the number from which we subtracted n.

An example: Suppose we want to factor 23449. First, we need to subtract this number from a perfect square which is just larger than 23449. This number is easily found by taking the square root of 23449, which is 153.13066 ... , then throw away the decimal part. That leaves 153; add 1 to this to get 154. Now the square of 154, which is 23716, is the smallest perfect square larger than 23449 by the way we picked it.

Next, compute $23716 - 23449 = 267$. This number is not a perfect square, so we proceed to the next value which is the square of 155; namely, 24025. Now $24025 - 23449 = 576$, which is a perfect square (it is the square of 24).

At this point we can stop. We take x to be 155 and y to be 24. Thus, $23449 = (155 - 24) \times (155 + 24) = 131 \times 179$. This process could be tedious if we didn't have our mighty C-64's and our trusty Pascal compilers to do the work for us. But, before discussing the programming involved, we need to discuss terminating conditions.

Is it possible for the list of differences given above to not ever produce a perfect square? The answer is, of course, no. The reason is that we eventually reach a value of $(n + 1)/2$ for x and this, with its corresponding value for y will give the trivial factors of n. (Try it with $n = 13$ so the sequence isn't too long; a perfect square won't be obtained until $49 - 13 = 36$.) This gives us a way to END the search; namely, keep incrementing the possible values for x until we obtain a perfect square *or* until we reach $(n + 1)/2$. In either case, we're done.

One last small point. What if the number we wish to factor is even? No problem! Keep dividing it by 2 until all such factors are gone. Example: Suppose we wish to factor 960. We simply note that $960 = 2 \times 480$, $480 = 4 \times 240$, $240 = 8 \times 120$, $120 = 16 \times 60$, $60 = 32 \times 30$, $30 = 64 \times 15$, so that $960 = 64 \times 15$. Now we can apply Fermat's method to the odd factor, 15. Hence, $960 = 64 \times 3 \times 5$.

The program given below implements Fermat's method of factoring an integer whose odd factor is assumed to be the product of two prime numbers, or is itself prime. Two procedures are used. The first factors out all possible factors of 2 as in the previous paragraph. The second implements the method as described above. All variables were kept global to keep matters simple; you may modify the routines as you see fit.

```
PROGRAM findfactors(INPUT,OUTPUT);
VAR n, oddfac, frstfac, secfac:INTEGER;
    evenpart:INTEGER;
PROCEDURE factor2sout;
VAR m:INTEGER;
BEGIN
  evenpart := 1; m := n; (* save the val
ue of n *)
  WHILE (m MOD 2) = Ø DO
    BEGIN
      evenpart := 2 * evenpart; (* evenp
art remembers the even factor of n *)
      m := m DIV 2
    END;
  oddfac := m
END; (* factor2sout *)
PROCEDURE factor;
VAR k, test, diff:INTEGER;
    done:BOOLEAN;
BEGIN
  k := TRUNC(SQRT(oddfac)); (* find the
square root of the odd factor
and throw away the decimal part. *)
  IF SQR(k) <> oddfac then k := k + 1;
(* if odd factor is already a
perfect square, we have found
our starting point; if not
the starting point is next
value. *)
  done := FALSE;
  WHILE NOT(done) DO
    BEGIN
      diff := k * k - oddfac;
(* find a difference and *)
      test := TRUNC(SQRT(diff));    (* te
st to determine whether *)
      IF SQR(test) = diff THEN done := T
RUE (* it is a perfect square;
       if so, we are done. *)
      ELSE k := k + 1    (* if not, go on
. *)
    END;
  frstfac := k - test; secfac := k + tes
t
END;  (* factor *)
BEGIN  (* main program *)
 PAGE;
 WRITELN('Enter a number to be factored.
');
 WHILE NOT(EOF) DO
  BEGIN
   READLN(n);
   factor2sout;
   factor;
   IF oddfac = n THEN
   WRITELN(n:5,'is odd; its factors are'
,frstfac:5,'and',secfac:5)
   ELSE
     WRITELN('The factors of',n:5,'are',
 evenpart:5,frstfac:5,secfac:5);
   WRITELN;WRITELN('Enter a number to be
 factored.')
  END
END.
```

Some final notes: Fermat, himself, used this method to factor

2027651281 = 44021 * 46061

in only 11 steps, as compared to the approximately 4850 divisions that would be required by using the ideas given at the beginning of this article. This is not to say that his method is the best; it is, however better than the method of dividing.

Fermat's method works quite rapidly when the factors of the number are somewhat close together, but can slow when the number to be factored is a prime. You may even get an integer overflow error since the program needs to compute squares. Also, Fermat's method is of historical interest only. Modern methods of factoring large integers are *much* more sophisticated and require special programming to be implemented; *i.e.*, they are generally not written in Pascal!

Lastly, if you are using Oxford Pascal please note that EOF cannot become TRUE from the keyboard. I believe that this is also true in KMMM. If you are using the Super Pascal product from Abacus, pressing the run/stop key forces EOF to become TRUE. For the other products, simply enter a value the program is not expecting (like a REAL or CHAR value) and the program will terminate with an error condition. Sloppy to say the least, but it works.

Next month, I would like to discuss some rather interesting reasons why one might be interested in the factors of an integer: it's a matter of security!

The author welcomes comments and suggestions concerning this column. The interested reader may write to the author at P.O. Box 43, Guilderland, NY 12084

©1985 by Carmen Artino. All rights reserved.

■

The Komputer Kover-Alls Co.

Computer & Video Dust Covers

- Stylish Upholstery Fabrics
- Custom Made
- Form Fitting
- Scotchguarded for Double Protection

Computers — $7.00* **Videos — $10.00***

Printers — $9.00–$13.00*

*** Add $1.50 shipping and handling**

Colors:

#1 Brown	#4 Rust	#7 Red
#2 Gold	#5 Tan	#8 Other colors
#3 Dark Rust	#6 Gray	upon request.

To Order, Call: 663-6276 or 668-9618

Or Write:

The Komputer Kover-Alls Co.
33770 S.E. Bluff Road
Boring, OR 97009

Please state make, model and color.

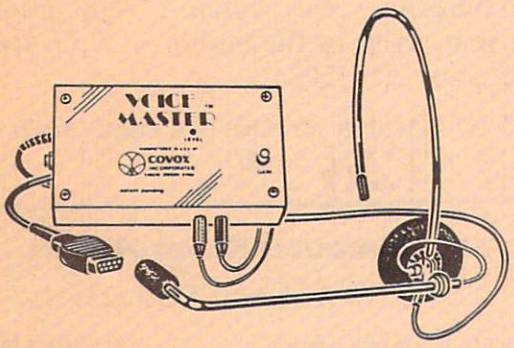
I'm Sorry, But I Don't Speak Hexidecimal

by Shelly Roberts

I have been laboring lately under a major misapprehension.

I believed that we have successfully completed the year of Big Brother, and that in this enlightened era, everybody, including his big brother knew about computers. I mean, haven't we all been made to feel guilty about depriving our offspring of the minimum advantage of computer literacy whether we were blessed by offspring, or blessed by lack of them? Doesn't everybody know the difference between a computer chip and a chocolate chip? A RAM and a EWE? A floppy, a mini floppy, a double sided double density and a slipped disk? Everybody in the discovered world knows about computers by now, right?

THE AMAZING VOICE MASTER



- Record & playback speech *in your own voice*
- Recognize your spoken commands
- Hum or sing to compose or play music in real time — notes and chords!

All this and more for only: $89.95 Add $4.00 for shipping & handling

You won't believe it until you hear it!

ASK YOUR DEALER NOW FOR A VOICE MASTER DEMONSTRATION

Or call **(503) 342-1271** for a telephone demonstration and receive a **FREE** audio cassette demo tape.

Note: Early Voice Masters have trade in value! Call for details.

COVOX INC.
675-D Conger St., Eugene, OR 97402
Telex 706017 (AV ALARM UD)

Wrong.

Everybody I know, knows about computers. It's just that lately I don't know everybody.

It seems that for the past couple of years my address has been some kind of emotional hexidecimal place where all the people I hung out with had keyboards growing out of their fingers, and exhaled tech-talk.

It is, it seems, a little different out in the real world.

I found that out when I hauled myself into a temporary writing job that was willing to pile money around my feet for being there, but couldn't manage the freight to bring their word arranging machines even into the nineteeth century, much less this one. They had typewriters in this place that the NAVY would have rejected!

So to prove to them my facility, and to make my life easier, I toted in my trusty portable computer. Setting to work with my face to the windows, and therefore, my back to the open door, I proceeded to process. And I was amazed at what I heard behind my back in a self-admittedly modern office housing hundreds of would be avante guardians:

Here's what I heard: (AND WHAT I COULD HAVE SAID, WHAT I SHOULD HAVE SAID, AND WHAT I HAD THE GOOD SENSE NOT TO SAY IN RESPONSE.)

1. "Oooooh. Is that a cute little TV?" (OOOOOOH. NOOOOOO.)
2. "Are they paying her money to sit there and watch that cute little TV? (YES. AND A LOT OF IT.)
3. "Oh, look at that cute little television set!" (ARE YOU RELATED TO THE FIRST GENTLEMAN WHO WALKED BY?)
4. "That's a computer, isn't it? (WHAT MADE YOU THINK IT WASN'T A

CUTE LITTLE TV? THEY HAVE A ONE TRACK MIND AROUND HERE.)

5. "I didn't know they made computers that small. (THEY DON'T. YOU'RE SEEING THINGS.)
6. "Can you do my income taxes for me?" (ONLY FOR A LOT OF YOUR MONEY.)
7. "Is that an IBM PC?" (OF COURSE.AREN'T ALL COMPUTER'S IBM PC'S?)
8. "A computer, huh? What do you need that for?" (TO KEEP TRACK OF MY SANITY.)
9. "Oh, that's adorable! How does it work?" (MAGIC. ELVES AND FAIRIES.)
10. "A Computer! Oh look, a computer! My (brother/ father/ sister/ daughter/ accountant/ lawyer/ wife/ bookie) has one of those. Are they any good? (DELICIOUS. ESPECIALLY WITH CHOCOLATE SAUCE.)
11. "The word processor, that's the hardware, right?" (RIGHT.)
12. "Did THEY buy that for you?" (IN A MANNER OF SPEAKING.)
13. "Is that yours?" (NO, SILLY, I RIPPED IT OFF A BAG LADY ON MY WAY IN TODAY.)

Needless to say, it was a very long day. By tomorrow they will have gotten used to that lady borrowing the office without furniture who brought her own computer with her. And right now they all think I'm just the hippest thing ever.

Tomorrow I think I will really bring in my cute little television set. That ought to confuse them. :)

©1985 by Write Protect Publishing. All rights reserved.

■

BACKUP PROTECTED SOFTWARE *FAST* with COPY II 64/128™

From the team who brought you *COPY II PLUS* (Apple), *COPY II PC* (IBM) and *COPY II MAC* (Macintosh) comes a revolutionary new copy program for the Commodore 64 and 128 computers.

- Copies most* protected software — *automatically.*
- Copies even protected disks in just 2 minutes (single drive).
- Copies even protected disks in just 1 minute (dual drive).
- Maximum of four disk swaps on a single drive.
- Includes fast loader, 12 second format.

Requires a Commodore 64 or 128 computer with one or two 1541 or 1571 drives.

CENTRAL POINT Software, Inc.
9700 SW Capitol Hwy., #100
Portland, OR 97219

503/244-5782
M-F, 8-5:30, W. Coast Time
VISA CHECK, COD WELCOME
(Prepayment Required)

$39.95
plus $3 s/h ($8 overseas)

*We update Copy II 64 regularly to handle new protections; you as a registered owner may update at any time at a reduced price.

This product is provided for the purpose of enabling you to make archival copies only.

Activision Opens Window Into Micro World Of Little People

by Shelly Roberts

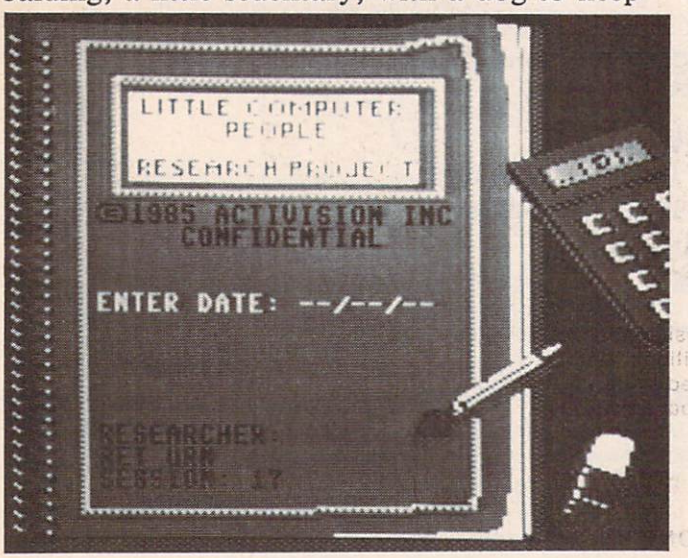
I watched Bits and Bytes on PBS and I didn't beieve a word of it. Try as they might, they couldn't convince me that what was making my computer compute was a series of electrical impulses opening and closing electronic gates in a wildly fantastic scheme of mathematical proportions which resulted in accurate and nearly infinite decision making.

Who did they think they were kidding? I didn't just fall off the turnip truck, you know. What makes a computer work, as any fool will tell you, is a little guy who lives in there. He's real quick and real smart, and when you tell the machine to do something, he's the one who does it. It couldn't be any simpler.

But, do you think I could convince the nerds and computoids around me to forget all that logic junk, and trust me to know truth from hardwiring? No, of course I couldn't. Not without some help, and Activision has just sent it.

That crafty crew at Activision has actually captured several of the Commodore Gremmies. They've gone public with them for all to see.

The fellow who lives in my computer is a bachelor gentleman of a certain age, greying, balding, a little sedentary, with a dog to keep him company, whose name is Elmer. And Elmer is quite at home in my computer. Why just the other night as I was observing Elmer's habits of daily living, he typed me a note telling me just how happy he was with the accomodations, even offering to pay rent, which I thought was a most civilized suggestion, although I have as yet to collect a penny from him.



Activision offers a window into the world of the Little People living in *your* Commodore!

The window that Activision has provided lets you see Elmer (and I understand also Harvey, Russel or Rick, Elmer's other computer colleagues) not actively at work, but at home, relaxing.

Elmer's house has three stories, and on first boot up, the house is empty, bereft of living beings, but fully furnished and fully stocked. After a moment or so, the front door opens, and in walked Elmer to inspect the joint. He looked in all the rooms, opened all the drawers, checked the closets, and, of course, turned on the resident computer to make sure it was working. Things must have been to his liking because he decided to move in. This meant going back outside to get his boxes, bringing them in and putting things away.

The house is a three-story fixer-upper, all fixed up. The first floor houses the living room complete with easy chair, fireplace, and phone. The kitchen is also on this floor.

On the next level is the bedroom, bathroom, and computer room, and the top floor houses the desk, file, typewriter, TV, piano and record player. Also a closet, which Elmer seems to enjoy disappearing into. Quite comfy, this house is.

The entire program consists of your watching your Little Computer Person as he goes about his daily or nightly routine. It is keyed to both the date and time you type in. For example, since I first met him in December, he played Christmas carols on the record player.

Little Computer People is a totally useless, absolutely engaging program with all the details thought through on a small scale. For

example, when Elmer plays the piano, which he does quite well, the animation moves his left hand on left handed piano strokes, and the right on the right. This may sound like a silly thing to notice, but when you consider that Elmer is less than an inch high on my CBM monitor, it shows the kind of attention to detail that Activision should be given medals for.

Elmer is quite fastidious. He washes the dishes after he eats. He also brushes his teeth after meals, and changes his clothes everyday. He plays games, he can get deliveries of food, dog food, books, records. He talks on the phone, and does hundreds of little things that are too numerous to mention, but not too tedious to watch.

I have talked to several other computer owners who have also managed to be introduced to their own little people inside their computers, and in comparing notes, we find that they are quite different in personality and temperament. Bill's LCP, for example, goes to bed promptly at nine o'clock. Frank heard Rick go outside in the middle of the day once and mow the lawn. Rick also has no interest in approaching his computer while I have to ignore Elmer's incessant banging on the glass to get me to help him run the single program in his computer, a name changing program for which I have no need.

Maybe you still believe PBS about all those bits, bytes, and binary nonsensicals being the root cause of why your computer does what it does. I never did. And I am grateful to Activision for opening up the window to allow me to meet Elmer, the man who does it all in mine.

This program does not do your taxes or figure out the long term amortization of your mortgage. All it does is engage you, charm your friends, and let you marvel at the innovation of the Activision folks who always believed, and continue to prove that what's really inside your computer is a whole lot of fun.

©1986 by Write Protect Publishing. Reprint with written permission only.

Getting Started With 80 columns on the 128

by Bill Pytlovany

Getting into the 80-column mode on the C-128 is possible in many ways. One way is to have the 40/80 column key depressed when you turn the computer on. Of course, you must also have an RGB or other monitor capable of displaying 80 columns. Instead of using the 40/80 key, I've found much more flexible methods to switch from 40 to 80 columns. The `GRAPHIC5` command, for instance, will activate 80-column mode.

Editor's Note:

When we talk to people at user groups and look through our mail, we find that the 80-column capabilities of the 128 have a good many programmers puzzled. The problem is not that the new chip (the 128 PC doesn't use the VIC chip for 80-column output) is inherently difficult to work with.

In some ways, it is easier to master than the VIC. The trouble is that the information you need to explore the chip is in the still awaited "128 Programmer's Reference Guide" and is not *found in the "System Guide". Fortunately for the frustrated hackers out there, Bill Pytlovany (a 128 PC programmer with a set of Commodore's development system manuals) has dropped by this month with some straight talk and needed information.*

If you are comfortable with machine language or an avid POKEr, then Bill's "care package" will be just the thing to get you started. If you are a non-programmer, then take a deep breath and proceed (if at all) with caution. Many computer owners will find no use whatever for the following material. Please be tolerant and understand that it happens to be of vital importance to others.

Grant

Getting back to 40 columns is easy. You just hit run/stop restore. The easiest method is probably hitting the ESC key and then the X key. This will toggle the screen display back and forth between 40 and 80 columns as often as you like. This method is very flexible because you won't have to turn you're computer off to change display mode.

Remember, with most display devices or monitors which are capable of both 40 and 80 columns you'll also have to change the display mode on the device. This can usually be done without turning any equipment on or off.

While in the 80-column mode, the C-128 handles video in an entirely different manner. The screen display is handled by a device known as the 8563 80-column display chip. There is 16K of RAM memory in the 8563 chip. This memory is in addition to the 128K of the C-128 PC. This memory is intended to be used solely by the 8563 80-column chip. Much of it is in relocatable areas, but the default definitions are as follow:

```
   Hex                          Decimal
              TEXT SCREEN
$0000 - $07CF              0000 - 1999
           ATTRIBUTE AREA
$0800 - $0FCF              2048 - 4047
         CHARACTER DEFINITIONS
$2000 - $3FFF              8192 - 16383
```

Text Screen

You'll notice that the text area and attribute area are both 2000 bytes (80 columns × 25 rows = 2000). There is a one-to-one relationship between the text area and attribute area whereas the location $0000 holds the character currently displayed in the upper left hand corner of the screen, row 1, column 1.

Location $0800, the start of the attribute area, holds the attributes of the character in row 1, column 1.

Definitions of text characters follow those of the screen display codes found in appendix D of your C-128 system guide, rather than strict ASCII codes. 0 = @, 1 = A, 2 = B, etc.

Screen Attributes

Attributes are defined by the setting of bits within the attribute byte.

```
Bit 7     Ø = character set 1
          1 = character set 2
          (see appendix D )
Bit 6     1 = Reverse
Bit 5     1 = Underline
Bit 4     1 = Blink
Bit 3     1 = Red
Bit 2     1 = Green
Bit 1     1 = Blue
Bit Ø     1 = Low intensity
          Ø = High intensity
```

Character Definition

The default character definitions take 8K (512 characters). Each character is defined by 8×16 bits; yet, only the 8×8 bits area is used under normal circumstances. Upon system start-up, these character definitions are initialized by the Kernal routine DLCHAR, whose Jmp is found at $FF62.

This is a great routine to look at to see how writing to the 8563 is done.

You'll notice that there is still some memory not used! This memory is available for various purposes. By changing the values of registers 12 and 13, you may alter which memory is used as the start of screen text. Or, by changing registers 20 & 21, you may alter the beginning of the attribute definition memory.

By reconfiguring these memory locations, it is possible to store more than one screen in 8563 memory allowing you to swap back and forth between screens.

8563 REGISTER MAP

Reg#	Bits	
Ø0	7-Ø	Horizontal total
Ø1	7-Ø	Horizontal Displayed
Ø2	7-Ø	Horizontal Sync Position
Ø3	7-4	Vertical Sync Width
	3-Ø	Horizontal Sync Width
Ø4	7-Ø	Vertical Total
Ø5	4-Ø	Vertical Total Adjust
Ø6	7-Ø	Vertical Displayed
Ø7	7-Ø	Vertical Sync Position
Ø8	1-Ø	Interlace Mode
Ø9	4-Ø	Character Total-vertical
1Ø	6-5	Cursor Mode
	4-Ø	Cursor Start Scan line
11	4-Ø	Cursor End Scan line
12	7-Ø	Display Address start high
13	7-Ø	Display Address start low
14	7-Ø	Cursor Position (high)
15	7-Ø	Cursor Position (low)
16	7-Ø	Light Pen Vertical
17	7-Ø	Light Pen Horizontal
18	7-Ø	Update Location (high)
19	7-Ø	Update Location (low)
2Ø	7-Ø	Attribute Start Addr high
21	7-Ø	Attribute Start Addr low
22	7-4	Character total-horizontal
	3-Ø	Character displayed-horiz
23	4-Ø	Character Displayed-Vertic
24	7	Copy/Fill
	6	Reverse screen
	5	Chr Blink rate
	4-Ø	Vertical Smooth Scroll
25	7	Text/Graph
	6	Attribute enable
	5	Semigraphic
	4	Pixel Double
	3-Ø	Horizontal smooth scroll
26	7-4	Foreground Color
	3-Ø	Background Color
27	7-Ø	Address Increment per Row
28	7-5	Character Set Address
	4	4416/4164
29	4-Ø	Underline Scan line
3Ø	7-Ø	Word Count (count-1)
31	7-Ø	CPU READ/WRITE DATA
32	7-Ø	Blockcopy source addr high
33	7-Ø	Blockcopy source addr low
34	7-Ø	Display Enable begin
35	7-Ø	Display Enable End
36	3-Ø	DRAM Refresh per scan line

8563 Memory Write

This routine is meant to be an example of how to write (poke) a byte into 8563 memory. Remember, this memory is not part of the normal C-128 memory and you cannot just poke or store a value there in one simple step. I have used it in various programs — it can be called from BASIC, or from another machine language routine. The following registers are first set:

```
.A    <- the value to write or poke
.X    <- memory location high
.Y    <- memory location low
```

In Basic, you can use the Basic 7.0 SYS command to past the values of the .A, .X & .Y registers. (For example: `SYS8192,a,x,y`). It could easily be entered using the 128's built in MONITOR. I have placed it in locations $2000+. To reserve this area, begin by typing

```
GRAPHIC1:FAST:GRAPHIC5
```

This will reserve space normally used by 40 column Hi-res graphics and put you into 80 column mode.

To save this little program, you would type:

```
BSAVE "POKE 8Ø",B0,P2Ø48 TO P2Ø8Ø

Ø2ØØØ     PHA           ;push .a -> stack
Ø2ØØ1     TYA           ; (y) -> .a
Ø2ØØ2     PHA                    -> stack
```

```
02003    TXA            ; (x) -> .a
02004    PHA                    -> stack
02005    LXA #$12       ;set up R18
02007    PLA            ;pop a.   (x)
02008    JSR $2013      ;write to 8563
0200B    INX            ;set up R19
0200C    PLA            ;pop a.   (y)
0200D    JSR $2013
02010    PLA            ;pop a.   (a)
02011    LDX #$1F       ;set up R31
02013    STX $D600      ;store 8563 reg #
02016    BIT $D600      ;wait till
02019    BPL $2016      ; status bit = 1
0201B    STA $D601      ;store new value
0201E    RTS            ;    in reg.
```

The subroutine at $2013 is actually executed three times, and uses the values of the A and X registers.

Reg .X Contains the 8563 register to which you wish to write.

Reg .A Contains the value to write.

$2013 You place the 8563 register number in location $D600.

$2016–$2019 Next you wait till the 8563 chip sets the status bit (7).

$201B At this time, $D601 will logically *BE* that register. You can now read the value contained in $D601 or write a new value there as we have done here.

In the above routine, we actually write to 3 different registers in the 8563. Since we want to write to memory, the first thing we must do is to set the Update Register (18 & 19) to contain the address we want. It *must* be done in order!

2005–2008 Sets the register 18 to the value passed in the X reg.

200B–200D Sets register 19 to the value passed in the Y reg.

2011– Sets register 31 and passes to it the value passed in .A

As you may note above, in the 8563 register map, R31 is the CPU Read/Write register and is used for data I/O between $D601 and 8563 memory. R18 and R19 are used as pointers to the memory location which is accessed.

I hope this helps clear some of the mysteries of the famed C-128 80 column chip. More than anything it should open the door to new and exciting questions.

©1986 by B. Pytlovany. All rights reserved.

■

Russell & Associates

- C-64 Repair
- C-128 Repair
- Warranty Work
- FREE Estimates
- 1541 Repair and Alignment
- 1571 Repair and Alignment
- Drive cleaning
- Drive Speed Adjustment
- Dealers Welcome

Russell & Associates

Located at: COMPUTER MART

2700 N.E. Andresen Road
Vancouver, WA 98661
(206) 695–1018

Potpourri

Quickies, Short Takes & Nutshell Reviews

Law Of The West — from Accolade

This is a genuinely unique and delightful game. Combining excellent graphics, the interaction of an adventure game, and easy joystick control, it defies categorization. You're the sheriff of a Western town, making your rounds, and reacting to the events and characters around you. At the end of the game, or upon your early demise (should you make the wrong decision at the wrong time), you will be rated in a number of categories.

Using a split screen, **Law of the West** offers a graphic display of the current scene, along with a set of reactions and/or replies available to the player. The players use a joystick to input their choices. The game evolves as the player reacts to a sequence of events and circumstances. Considering the multitude of game possibilities, together with the relatively short time it takes to complete a game, it seems unlikely that this game will grow old too rapidly.

With this one, it's not simply a matter of winning or losing. The end of a game leaves the door wide open, encouraging you to try to improve your reactions and judgments through repeated plays.

A sampling of the graphics from Law of the West, a winning combination of graphics, text, and joystick controls.

Accolade, a spin-off of Activision, is a relative newcomer on the scene. This is the first Accolade product I've explored, but from this sampling, I can't wait to explore more of their titles.

Randy Chase

The Luscher Profile — from Mindscape, Inc.

Do your preferences for certain colors and shapes say anything about you? They surely do. Dr. Max Luscher has established a world-wide reputation as the wizard of the language of color and shape. The test instruments he has developed are respected and in wide use, particularly in Europe.

Aside from the "professional" instruments, some of his work has long been available to the public in the U.S. in book form (*The Luscher Color Test*, Dr. Max Luscher, Random House Inc., and in paperback, Pocket Books). This package for the Commodere 64 is at once much expanded, yet vastly more simple to use. No book to read. No 75-page interpretation table to search through. Expanded though it may be, this one takes about ten minutes.

To use the Profile, you simply load the disk and follow the easy instructions. All you have to do is look at colors and shapes, and rank them in order of preference.

DISKS - 69¢

Foolish to pay more.
Dangerous to pay less.

	1 – 50	51 +
5.25 SSDD	.79	.69
5.25 DSDD	.89	.79
PC FORMATTED	1.09	.99
AT 1.2MB 3.5 1D (Mac)	1.99	CALL

- QUALITY MEDIA
- LIFETIME REPLACEMENT GUARANTEE
- HUB RINGS • TYVEC EPS.
- WRITE PROTECTS

Add $4.00 shipping and handling per 100 Diskettes. COD add $1.95. (CA residents add 6.5% sales tax) VISA MC COD

BLACKSHIP COMPUTER SUPPLY

P.O. Box 883362
San Francisco, CA 94188
In California 415-550-0512
USA orders 800-431-6249
In Canada 403-428-6229

The Luscher Profile is not parlor-game hocum, though you *can* run it just for fun. This is not the best game to run at a party. It can be revealing, and involuntary exposure can be painful. Be respectful of others' privacy. If *they* give it away, that's fine, but it should be their choice.

This "test" is based on careful research (even compensation for partial color blindness is a part of the design), and produces real results. So does a thermometer — which tells you what your tempurature is, but not *why*.

Sensitivity to mood is both a strength and a weakness of this product. It is fascinating to watch it mirror your changes in spirit, but this should caution you about taking anything it says as if it were chiseled in stone. $59.99 list, Mindscape Inc.

Grant Johnson

The Whole Bit —
from Applied Technologies, Inc.

This is a very nice word processing package, especially for those concerned about getting all of the basic functions without having to re-finance the house to afford the package. Applied Tech offers two versions, one with a manual in a nice three-ring binder, and the other with the manual on the disk in text files. The difference is that your printer can save you the fifteen dollars if you don't mind printing out the manual. Seems like a nice idea.

Although I prefer the operating environment and command structure of **PaperClip** (partially because I've two years invested in learning to use my word processor without having to think about it), I'm quick to admit that for the low price (only $24.95 with the manual on disk), it does offer a very powerful range of options.

If you're looking for a word processor and your budget is a consideration, **The Whole Bit** warrants your consideration. For the average user who wants the power of word processing without paying the price of the leading packages, this menu-driven program for the Commodore 64 provides a welcome alternative.

Randy Chase

Final Four Basketball — from Lance Haffner Games

This is another real winner from Lance Haffner. For the sports gamer looking for good accurate sports simulations, this is a *must* addition to your library. If you're looking for hi-res graphics and joystick excitement, don't bother, but if you would love to see how Bill Walton and the '73 UCLA Bruins would match-up against Bill Russell and the '58 San Fransisco Dons, you can't afford not to give this one a try.

Haffner starts off miles ahead of the competition since this is the only basketball simulation available for the Commodore, and given the realism and playability of **Final Four Basketball**, it may remain unmatched. The package includes a program disk, unprotected and with a message on the title screen recommending that the user make an archival back-up for their own protection, and a team disk including the entire 1985 college season and a delightful cross section of NCAA history in older teams

Season disks will be available each year, and Haffner also reports that a team compiler which would allow gamers to enter additional teams, as well as a module to compile statistics after each

$5 SOFTWARE

THE BEST C64 PUBLIC DOMAIN SOFTWARE

We offer you the best selection, best documentation, and the Best Price.

Most user supported public domain librairies are impossible to use being both incredibly disorganized and lacking in documentation. We at 64 Gold have taken a professional approach to the problem and publish a library of outstanding selections of the best C64 public domain software in existance for only $5.00 a diskette. Each diskette is FULL of software to help you get more out of your Commodore 64.

Write Or call Today for **free brochure** listing selections or choose one of the following.

- Starter Kit - one each, utility disk, game disk and 44 page documentation catalog of individual programs $10 ($15 value)
- Our documentation catalog - 44 pages about the programs in the library with valuable information on individual programs. $5.
- Set of 5 introductory disks with documentation catalog - top games, utilities and educational programs. $29
- Set of 10 "Solid Gold" disks - the ten best disks in our library includes, documentation catalog, directory index utility, fast copy, word processor, machine language tutor, and super games! $49.
- Complete set of 64 disks with documentation catalog $256 - Save $64

California Residents add State Sales tax
Add $3.50 Shipping and handling include payment with order VISA/MC Ok

64 GOLD
3219 Folsom St.
San Francisco, CA 94110
(415) 550-8222

game are also in the works. An NBA version, complete with current and past teams, should also be available by the time you read this.

Randy Chase

CMS Accounting

Upon discovering that there was a fully-integrated accounting package available that utilized the features of the 128 PC, I couldn't wait to get a copy. Unfortunately, after a month of frustration and lost data, I succumbed to frustration, dusted off the old 64, reloaded my B.E.S.T. General Ledger, and returned the CMS package to the store.

I found that the manual, at times, created more confusion than it cleared. A few detailed examples or some sample screens with accompanying explanations would have gone a long way toward making the system easier to set up. After two weeks of failed attempts, I brought in an accountant to help me compensate for my inability to get the system up and keep it running for more than a few days. Even with his help, and two more weeks of *full time* work, the system still failed to integrate and run properly.

In fairness to CMS, they tried to be helpful when we called, and eventually offered to exchange our possibly defective disks for new ones. After losing a month's work, we simply didn't have the energy or the time to try it one more time. We opted for bailing out.

The features of the package are enticing, but there are just too many bugs currently in the system to rely on it in a business environment. Even if it were working as the manual says it will, there are major flaws in the design that would warrant reservations.

It's obvious, after spending many days entering data, that the designers have never worked in a day-to-day business environment. For instance: after you've entered a customer's phone number, it asks you if the data is correct before saving it. Unfortunately, it places the prompt in the same screen location where the number was, leaving you wondering how you can double check something you can't see.

Perhaps, with more debugging and some revisions to make the system more workable for the poor person who is going to be feeding it data, it might have some potential. After all, there aren't many serious accounting packages out there yet for the 128. Being the only game in town isn't good enough when the system doesn't work.

In comparison, I might mention that the accountant who worked with me had never used either the CMS or the B.E.S.T. packages. He started from scratch with both systems and duplicated the work that took four full days with the CMS General Ledger in less than four hours with the B.E.S.T. ledger; and that system is still running without failure. Considering that, I think we'll live with the limitations of the 64 until B.E.S.T. releases their Amiga package.

Randy Chase

IS BACKING UP COMMODORE SOFTWARE DRIVING YOU CRAZY?

Now you can Back-Up virtually all 64/128 Software with our NEW 1571 Clone Machine

(requires a Commodore 128 with 1571 drive)

Months of R & D have gone into our 1571 GCR CLONE MACHINE so that you now have the ability to reproduce GCR signals on the disk. This way you are assured that you're copying the most rudimentary signals placed on the disk allowing you to back-up 64 Software, CPM Software, and 128 Software. The complete package includes:
1) GCR COPY, 2) COMPLETE DENSITY UTILITY, 3) DIRECTORY UTILITIES (rename, delete, copy file, etc.), 4) AUTO BOOT MAKER (for 64 and 128 Software), 5) EXPANSION MODULE SECTION (for future upgrades.)

ONLY $49.95*

*(Send us any old copy program and we'll give you $10.00 credit so your cost for 1571 Clone Machine is only $39.95)

THE NEW CLONE BUSTER Cartridge for the 64 or 128 (in 64 mode) is now the best memory capture device available. Snapshot your software and save it out to the standard Commodore DOS. Will back-up most 64 software and remove annoying error tracks and difficult to load protection.

ONLY $49.95

Micro-W. DISTRIBUTING, INC

VISA MasterCard

CALL: (201) 838-9027
1342 B Route 23
Butler, N.J. 07405

ETAOIN SHRDLU

Dr. Curryfavor's Code Game

by Dr. Petrie Curryfavor

Are you tired of all of those serious secret code programs that Dr. Curryfavor has been showing you? Want to have some fun, for a change, rather than all that work? Take heart! Jovial old Dr. Curryfavor has written a frivolous little Secret Code Game, just for you! **ETAOIN SHRDLU** is a two-person game. Since it is really very difficult to keep a secret from yourself, you will need someone with whom to play.

When you RUN the game, you will be asked to enter a secret code number from 0 to 255. 0 will select a RaNDom number. The player who will write the secret message (Player One) will select the number (it will be invisible) and press [RETURN]. The program will take a little while to build the secret alphabet and then display the MAIN MENU.

At this point, Player Two should leave the room, or go and sit someplace where he or she *cannot* see the screen. Player One will then select "(1) NEW MESSAGE" by pressing "1" and then [RETURN]. The top half of the screen will be painted blue, the message "PRESS ← WHEN FINISHED" prompt will appear, and you may begin typing your secret message. As you type, the letters you enter will appear in white in the top half of your screen, while the secret code appears in blue in the bottom half. When you are finished, hit the [LEFT ARROW] key and you will return to the MAIN MENU.

You may then call your "Victim" back to the computer. Enter "2" from the menu, and let the game begin! Your secret code will be printed in white letters on a blue background on the top of the screen and the "Game Board" will be printed in blue on the white lower half. Player Two now takes control of the keyboard, and will be asked for a letter to be decoded. So, *pay attention, Player Two!* If you think the letter "W" is *really* the letter "E" (for instance), then you should type "W" and press [RETURN]. A "PRESS ← AT END OF GAME" message will appear, and the "W" will be printed in reversed blue with an =? after it. Type "E" and [RETURN] and wait for the results!

If your guess was correct, all of the "W"'s in the secret message will be changed to blue "E"'s on a white background, the message line will congratulate you and your score will increase by 100 points minus five times the number of your goof count. The tally board (the Alphabet at the bottom of the screen) will display the correct letter in purple, and under it, the code letter in reversed blue.

Of course, goofs are what you get when you guess *wrong* (along with an admonition from the message line). You can see that if you have *twenty* goofs, you will get zero points for a right answer. And, with more than twenty goofs, you actually *lose* points by getting a right answer! So, be sharp with your guesses!

It occurred to suspicious old Dr. C. that some of you more unscrupulous Silicon Panther Youth Squadders (S.P.Y.S. for short) might try to keep entering the *same* right answer over and over again to build up your scores, but, *don't try it!* Crafty old Dr. Curryfavor has put in a cheat detector that will waggle its figurative finger at you!

Whenever you are done decoding the message, type in the [LEFT ARROW] key. When you are asked what it equals, type it again, and the game will end. You will be thanked for playing, and asked if you want to play again. If your answer is yes, enter "Y", and this time, Player One becomes Player Two, and vice versa.

Of course, in order to be fair, everything *must* be spelled correctly, so keep your dictionary handy! Lexicographical old Dr. Curryfavor reads *his* all the time; in fact, he has five of them in his office, and a great big one in

the living room! You know, if you have a big spelling test coming up, or if you want to get some practice on those words you can never seem to remember, get your opponent to use them in the secret message. This game requires intelligence, concentration, and a good knowledge of the language being used (if you are studying a foreign language, play the game in that language).

Enough palaver! On to the program!

Colorful old Dr. Curryfavor is going to show you a lettle trick he uses to help him write and de-bug his programs. Do you have any colored pencils? Dr. C. has found it very helpful to draw different colored boxes around different blocks of his program print-out to help identify at a glance the different loops and subroutines. As we study the program, we will point out these structures so that you can try it yourself, and see how it works. Dr. Curryfavor prefers to use the same colors to indicate the same kinds of structures in all of his programs. You, of course, may choose your *own* colors. Dr. C. reserves the red pencil for corrections and additions, and the light blue one for checking off the corrections as they are made.

Lines 100–200 — Dr. C. drew a blue box around these lines, and labeled it "INIT" for initialize (he also uses blue for "START"'s and "END"'s). Here's where we do all the setting up of the game. Those of you who copied **Cypherighter** (from the December/January issue of *Power/Play*) will notice a lot of similarities between these two programs, and, in fact, **ETAOIN SHRDLU** is based on **Cypherighter**, so you can look up that article to find out what's going on in here.

Lines 100–110 build our "Formatting" strings (Down string, Right string, and Eraser string) and our "Alphabet string." Dr. C. put a separate light green box (he uses green for menus) around lines 120–140. This is where you INPUT your invisible secret code number. Dr. C. forgot to tell you in the **Cypherighter** program that since there is no such number as "−0", the RND(−N) function (line 150) will *not* have the effect of giving you the same code every time if you enter "0."

Lines 160–200 build our coded alphabet string and then send us to the MAIN MENU (lines 330–360).

Line 210 — This line is in a Prussian blue box labeled "START ENTRY" with an arrow pointing down into an ochre colored box enclosing lines 220–290.

Lines 220–290 — "ENTRY LOOP". If you will look at the main loop in **Cypherighter** (lines 120–240), you will see a bunch of IF . . . THEN statements — eleven, to be exact. These conditionals are like sand in the gears, and really slow things down, so impatient old Dr. C. took six of them out and put them in a subroutine (lines 470–520) so that we only look at them when we do not type a letter. This happens in line 230; 65 to 90 are the character string ASCII codes for the letters A–Z.

In line 240 we pick out the code letter for our B$ by getting the letter from the same position in the code string. That is, we get the first letter in CD$ for "A", the fifth letter in CD$ for "E", and so forth.

Line 250 does our fancy print routine to put both the message (A$) and the code (B$) letters on the screen. Look at our formatting strings go to work!

Line 260 builds our code string array (unless there's a DELete). Here in another difference from **Cypherighter**, which uses a one-dimensional array, because this is a *two-dimensional* array. This has some advantages for the game segment of this program, and since we don't need to save the decoded message, we have plenty of memory for it. With a two-dimensional array, we can save our secret code in columns and rows so that we can control our screen display very precisely — just like moving a piece of graph paper around on a desk top. The first column (on the left) is column 0 and the top row is row 1.

Line 280 counts the columns, and if you get to the end of the line before hitting [RETURN], it does an automatic cariage return (notice that it GOes TO 230).

Lines 300-320 — If you fill up all the space in the message block, you will pop into this medium green box where we will wait for you to "PRESS ← FOR MENU." When you do, we fall through to lines 330–360.

Lines 330–360 — the MAIN MENU. This dark green box is where you INPUT your selection "1" or "2." Why did we INPUT a string instead of a numeric variable and then have to go through all that *value* stuff in line 350? This is called an "Error Trap." That's so that if you enter a letter by mistake, you won't get that spooky "?REDO FROM START" er-

ror message. In fact, the *only* entries the program will react to at all are the numbers "1" and "2." There are two other Error Traps in this program. Can you find them?

Line 350 also paints the top of the screen blue with a FOR ... NEXT loop. Line 360 sends you on your way to either the entry loop or the game loop.

Lines 370-380 — If you entered "2" to play game, you were sent to this small Prussian blue box called "START GAME." Line 370 writes our coded message into the glue message block, and line 380 prints the Alphabet in two lines at the bottom of the screen. Dr. C. drew a little blue arrow in this box pointing down into lines 390-460.

Lines 390-460 — the brown box named the "GAME LOOP" (Dr. C. uses earth tones and oranges for main loops). Lines 390 and 400 print the score board, and line 410 asks you to you to INPUT the letter you want to decode (G$).

Setting G equal to 0 in line 420 sets us up for line 440 where we will look for a match (no, I don't need a light, thank you!) We go to the subroutine at line 580 to print our message line. Line 430 asks for the *real* letter, and if you type the left arrow key, you will go to 590, the END GAME block.

In line 440, we count from 1 to 26; if both of our letters are in the same numbered spot in their respective alphabets, then we have found a "match" and that number becomes "G." The "IF G THEN ... " in line 450 means "IF G>0 THEN ... " which then makes our cheat detector, "K", equal to 1. Then we GO TO 530, the "GAME UTILITIES" box.

If G=0 at the end of the checker loop, it means we *didn't* find a match, and so G3$ becomes our "BAD GUESS" string. Our goof counter (TR) is added to, we print our message line, go back to update our scoreboard starting at line 390, and start the loop over again.

Lines 470-520 — remember back in our entry loop, how we would go to the utilities subroutine whenever we hit a key that was not a letter? Well, this purple box is where the "ENTRY UTILITIES" are located! If you check your ASCII code tables in your User's Manual (page 145 for the VIC, and 135 for the C-64), you will see that 95 is the code for the left arrow key (line 470), which will send you to the menu (330).

Lucky 13 is the number for the [RETURN] key (line 480), so we move to the next row (R=R+1) and set the column counter to 0.

The delete key is CHR$(20), so in line 490, we turn A$ into a blank space and subtract a column. This means we will erase the last letter we typed when we RETURN to the entry loop and GO TO 250, the print routine. If we are at the left end of the line, C=0, so line 500 will move us back to the right-hand end of the line and move us up a row (R=R-1). If we are at the top left corner of the message block then R=1, and C=0, and we can delete no farther. This delete routine will allow you to delete everything on the screen without crashing the program!

Line 510 will send us to the "FILE FILLED" notice after we have filled up the message block.

Lines 530-570 — This is a utilities subroutine also, so Dr. C. used another shade of purple, heliotrope, to draw this box, and he calls it the "GAME UTILITIES" block.

Did you know you can PEEK into your computer? That's what we're doing in line 530. We are PEEKing into the memory locations that display the screen. If we see the letter we are looking for (G$), then we POKE the number of the *real* letter (G) into that location, which will then print the real letter on the screen! Look in your User's Manual (page 141 VIC, 132 C-64) for the POKE numbers of the letters. They are different from the ASCII codes (minus 64), and the ASCII code number *plus* 64 is the reverse of the letter. Now we make our cheat counter, "K" equal to 0.

Line 540 is a formatting routine to set up for our tally board (RO is for the row).

If we didn't find the code letter in the message block, the K is still equal to 1 and G3$ becomes our "CHEATING" message (line 550), which we print on the message line, and then we go back to our game loop.

Otherwise, we fall through to line 560, where we initialize and print our "correct" G3$, and increment our score. Notice how the number of goofs (TR) affects the score. Line 570 updates the tally board, and we go back to get the next letter.

Line 580 — Back to purple for a one-line subroutine to print the message line. This is what all those GOSUB 580's were all about!

Lines 590–620 — If you use the left arrow key to ESCape the game loop (and you should generally have a way to exit an INPUT loop), you will come to this blue box with the appellation "END GAME." Here, we get a new G3$ and print it in line 590. Line 600 offers you the opportunity to PLAY AGAIN? and if your answer starts with the letter "Y", line 610 will re-RUN the program. If not, line 620 will blank the screen and thank you for playing. The END statement is really not necessary in this program, but it kind of "neatens up" the look of the listing, so Dr. Curryfavor put it in.

If you were drawing colored boxes on a print-out of your *own* program, you would now be able to re-organize it and de-bug it very easily, because you could clearly see each independent little "module" or block of code. Of course, you could have used REMark statements, in the program itself, but then the un-expanded VIC would not have enough memory to RUN the program. Besides, the colored boxes are easier to spot, and they are a lot prettier! You may even want to frame your program and hang it on your wall!

Now some of you may be wondering about the peculiar title of this game. Strange as it may seem, years ago the two words "ETAOIN SHRDLU" were often seen in print — especially in newspapers. In fact, they were so common that cartoonist Walt Kelly used to use them in his "Pogo" comic strip. They have a special meaning to cryptographers, as well. However, you don't see these words much any more. How mysterious!

Sneaky old Dr. Curryfavor has a challenge for all you S.P.Y.S. out there. Find the answers to the following three questions:

1. What is the meaning of the words "ETAOIN SHRDLU"?
2. Why did they appear so often in print, and why are they seldom seen anymore?
3. How can these words be useful to a cryptographer?

If you can solve these mysteries, generous old Dr. Curryfavor has some prizes for you! Send your answers along with a blank tape or disk, in a suitable self-addressed, stamped mailer to Dr. Curryfavor and he will return it with a different little computer game for each correct answer. Be sure to tell me what kind of a computer you have!

You will also be qualified to be on Dr. C.'s Pen Pal List (if you want) and youwill receive a copy of it whenever it's ready, *IF* you include a legal-sized S.A.S.E.

For the Pen Pal List, please include your name, address, and type of computer. If you wish, you should also include your phone number and your date of birth, however they aren't essential. Add any other information that you think would be useful on a pen pal list.

If you would rather not type in **ETAOIN SHRDLU** yourself, send a blank tape or disk, a self-addressed, stamped mailer and $3.00 to your friend and mine:

Dr. Petrie Curryfavor
Cybercryptographer and Professor of Obfuscation
c/o Eddie Johnson
2928 Tennessee NE
Albuquerque, NM 87110

Please make checks or money orders out to Eddie Johnson. Dr. Curryfavor is much too busy to be bothered with such mundane matters as bands and the like! *Happy detecting!*

Announcing . . .

Mike J. Henry's

FAST BOOT !

- **At last! A fast loader from the author of Di-Sector !**
- **Disk-based, and relocatable in memory.**
- **Works with both 1541 and MSD Disk Drives.**
- **Speeds loading by up to seven times !**

Only $14.95

Aquarian Software

VISA

P.O. Box 22184
Portland, OR 97222

MasterCard

Phone Orders, Call: (503) 654-2641

Dealer Inquiries Welcome !

ETAOIN SHRDLU Listing

For the VIC-20

by Eddie Johnson

```
1 rem ***** etaoin shrdlu *****
2 rem *** unexpanded vic 20 ***
3 rem by dr. petrie curryfavor, 1984
4 rem 2928 tennessee ne, albuquerque,
nm 87110  505) 299-1662
5 rem do not type in rem statements or
 program will run very slowly!
100 d$="[home]":fors=1to22:d$=d$+"[dow
n]":r$=r$+"[right]":e$=e$+" ":next:dim
k$(10,23)
110 fors=65to90:al$=al$+chr$(s):next:c
l=30720:g4$="[rvs on][pur]press [left
arrow] at end of game[blu]"
120 print"[clr]invisible entry":print"
[down][down][down]0=random selection"
130 input"[home][blu][down][down]code
number (0-255)[wht]";n:ifn<0orn>255the
n130
140 print"[blu][down]encoding alphabet
 "
150 n=rnd(-n):deffnr(n)=int(rnd(1)*26)
+65
160 forr=1to26
170 c$=chr$(fnr(n))
180 forn=1tor
190 ifc$=mid$(cd$,n,1)thenc$="":goto17
0
200 next:cd$=cd$+c$:next:r=1:goto330
210 print"[rvs on][pur][down][down]pre
ss [left arrow]  when finished[blu][rv
s off]"
220 geta$:ifa$=""then220
230 a=asc(a$):ifa<65ora>90thengosub470
:b$=a$:goto250
240 b=a-64:b$=mid$(cd$,b,1)
250 printleft$(d$,r)left$(r$,c)"[rvs o
n]"a$"[rvs off]"left$(d$,11+r)left$(r$
,c)b$
260 ifa<>20thenk$(r,c)=b$
270 ifa=20ora=13then220
280 c=c+1:ifc>21thena$=chr$(13):goto23
0
290 goto220
300 printleft$(d$,11)"[rvs on][red] **
* file  filled *** "
310 printleft$(d$,22)"[rvs on][pur] *
press [left arrow] for menu * ";
320 getm$:ifm$<>"[left arrow]"then320
330 print"[clr][rvs on][pur] ** etaoin
  shrdlu **  **** main  menu **** "
340 print"[down][blu] (1) new message"
:print"[down] (2) play game"
350 inputq$:q=val(q$):forf=7680to7899:
pokef,160:pokef+cl,6:next
360 onqgoto210,370:goto330
370 forr=1to10:forc=0to22:printleft$(d
$,r)left$(r$,c)"[rvs on]"k$(r,c);
380 next:next:print"[rvs off]"left$(d$
,18)left$(al$,13)left$(d$,20)right$(al
$,13)
390 printleft$(d$,16)"[rvs on]goof cou
nt:"tr
400 printleft$(d$,14)e$left$(d$,14)"[r
vs on]your score:"sc
410 printleft$(d$,12)e$left$(d$,12)"[r
vs off]decode letter";:inputg$
420 g=0:g$=left$(g$,1):g3$=g4$:gosub58
0
430 printleft$(d$,12)left$(r$,15)"[rvs
 on]"g$"[rvs off]=  [left][left]";:inp
utg2$:ifg2$="[left arrow]"then590
440 fori=1to26:ifg$=mid$(cd$,i,1)andg2
$=mid$(al$,i,1)theng=i
450 next:ifgthenk=1:goto530
460 g3$="[rvs on][red]  sorry!  bad gu
ess!  [blu][rvs off]":tr=tr+1:gosub580
:goto390
470 ifa=95then330
480 ifa=13thenr=r+1:c=0
490 ifa=20thena$=" ":c=c-1
500 ifc<0thenc=21:r=r-1:ifr<1thenr=1:c
=0
510 ifr>10then300
520 return
530 forp=7680to7899:ifpeek(p)=asc(g$)+
64thenpokep,g:k=0
540 next:g=g-1:ro=18:ifg>12thenro=20:g
=g-13
550 ifktheng3$="[cyn][rvs on] no cheat
ing allowed! [blu][rvs off]":gosub580:
goto390
560 g3$="[rvs on][grn] correct! good g
uess! [blu]":gosub580:sc=(sc+100)-tr*5
570 printleft$(d$,ro)left$(r$,g)"[rvs
off][pur]"g2$left$(d$,ro+1)left$(r$,g)
"[rvs on][blu]"g$:goto390
580 printleft$(d$,22)g3$;:return
590 th$=" thanks for the game! [pur]":
g3$="[rvs on][blk]"+th$:gosub580
600 printleft$(d$,12)"[rvs on]play aga
in (y or n)  [left][left]";:inputq$
610 ifleft$(q$,1)="y"thenrun
620 print"[clr][wht]"th$:poke36879,8:e
nd
```

©1985 by E. Johnson. All rights reserved.

ETAOIN SHRDLU Listing

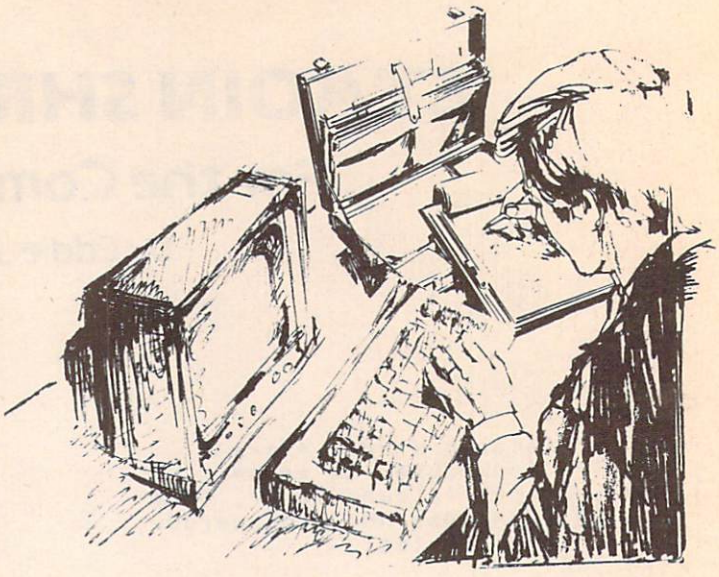
For the Commodore 64

by Eddie Johnson

```
1 rem ***** etaoin shrdlu *****
2 rem ***** commodore  64 *****
3 rem by dr. petrie curryfavor, 1984
4 rem 2928 tennessee ne, albuquerque,
nm 87110  505) 299-1662
90 poke53281,1
100 d$="[home]":fors=1to40:d$=d$+"[dow
n]":r$=r$+"[right]":e$=e$+" ":next:dim
k$(11,41)
110 fors=65to90:al$=al$+chr$(s):next:c
l=54272:g4$="[rvs on][pur]press [left
arrow] at end of game[blu]"
120 print"[clr][blu]invisible entry":p
rint"[down][down][down]0=random select
ion"
130 input"[home][blu][down][down]code
number (0-255)[wht]";n:ifn<0orn>255the
n130
140 print"[blu][down]encoding alphabet
 "
150 n=rnd(-n):deffnr(n)=int(rnd(1)*26)
+65
160 forr=1to26
170 c$=chr$(fnr(n))
180 forn=1tor
190 ifc$=mid$(cd$,n,1)thenc$="":goto17
0
200 next:cd$=cd$+c$:next:r=1:goto330
210 print"[rvs on][pur][down][down][do
wn][down] ******* press [left arrow]
when finished ******* [blu]"
220 geta$:ifa$=""then220
230 a=asc(a$):ifa<65ora>90thengosub470
:b$=a$:goto250
240 b=a-64:b$=mid$(cd$,b,1)
250 printleft$(d$,r)left$(r$,c)"[rvs o
n]"a$"[rvs off]"left$(d$,12+r)left$(r$
,c)b$
260 ifa<>20thenk$(r,c)=b$
270 ifa=20ora=13then220
280 c=c+1:ifc>39thena$=chr$(13):goto23
0
290 goto220
300 printleft$(d$,12)"[rvs on][red] **
********** file  filled ********** "
310 printleft$(d$,24)"[rvs on][pur] **
******** press [left arrow] for menu *
********* ";
320 getm$:ifm$<>"[left arrow]"then320
330 print"[clr][rvs on][pur] **** etao
in  shrdlu ** main  menu **** "
340 print"[down][blu] (1) new message"
:print"[down] (2) play game"
350 inputq$:q=val(q$):forf=1024to1463:
pokef,160:pokef+cl,6:next
360 onqgoto210,370:goto330
370 forr=1to11:forc=0to40:printleft$(d
$,r)left$(r$,c)"[rvs on]"k$(r,c);
380 next:next:print"[rvs off]"left$(d$
,19)left$(al$,13)left$(d$,21)right$(al
$,13)
390 printleft$(d$,17)"[rvs on]goof cou
nt:"tr
400 printleft$(d$,15)e$left$(d$,15)"[r
vs on]your score:"sc
410 printleft$(d$,13)e$left$(d$,13)"[r
vs off]decode letter";:inputg$
420 g=0:g$=left$(g$,1):g3$=g4$:gosub58
0
430 printleft$(d$,13)left$(r$,15)"[rvs
 on]"g$"[rvs off]=  [left][left]";:inp
utg2$:ifg2$="[left arrow]"then590
440 fori=1to26:ifg$=mid$(cd$,i,1)andg2
$=mid$(al$,i,1)theng=i
450 next:ifgthenk=1:goto530
460 g3$="[rvs on][red]  sorry!  bad gu
ess!  [blu][rvs off]":tr=tr+1:gosub580
:goto390
470 ifa=95then330
480 ifa=13thenr=r+1:c=0
490 ifa=20thena$=" ":c=c-1
500 ifc<0thenc=39:r=r-1:ifr<1thenr=1:c
=0
510 ifr>11then300
520 return
530 forp=1024to1463:ifpeek(p)=asc(g$)+
64thenpokep,g:k=0
540 next:g=g-1:ro=19:ifg>12thenro=21:g
=g-13
550 ifktheng3$="[cyn][rvs on] no cheat
ing allowed! [blu][rvs off]":gosub580:
goto390
560 g3$="[rvs on][grn] correct! good g
uess! [blu]":gosub580:sc=(sc+100)-tr*5
570 printleft$(d$,ro)left$(r$,g)"[rvs
off][pur]"g2$left$(d$,ro+1)left$(r$,g)
"[rvs on][blu]"g$:goto390
580 printleft$(d$,23)g3$;:return
590 th$=" thanks for the game! [pur]":
g3$="[rvs on][blk]"+th$:gosub580
600 printleft$(d$,13)"[rvs on]play aga
in (y or n)  [left][left]";:inputq$
610 ifleft$(q$,1)="y"thenrun
620 print"[clr][wht]"th$:poke53281,0:e
nd
```

©1985 by E. Johnson. All rights reserved.

How To Type In Program Listings From The Guide



In order to typeset programs so that clear images may be printed in the pages of *The Guide*, it was necessary to deal with the problem of graphics characters that appear on the screen when you type in a capital letter in graphics mode, or when you choose graphic symbols for colors (instead of using POKEs, which occupy more memory space in your programs), etc.

To begin with, all programs appear in the text mode. You enter the text mode by pressing the Commodore key and the shift key simultaneously. This solves the problem of capital letters.

The other graphic symbols are replaced with letters the typesetting machine can recognize. For example, if the program shows [lt grn], you simultaneously press the Commodore key and 6, causing the graphic symbol for light green to be shown on your screen.

We hope this helps clear up any confusion you may have experienced. If you have any questions, please feel free to contact us. Have fun!

Program Shows:	Press Keys:	Screen Shows:
[blk]	ctrl-1	
[wht]	ctrl-2	
[red]	ctrl-3	
[cyn]	ctrl-4	
[pur]	ctrl-5	
[grn]	ctrl-6	
[blu]	ctrl-7	
[yel]	ctrl-8	
[rvs on]	ctrl-9	
[rvs off]	ctrl-0	
[orange]	Cmdr-1	
[brown]	Cmdr-2	
[lt red]	Cmdr-3	
[gray 1]	Cmdr-4	
[gray 2]	Cmdr-5	
[lt grn]	Cmdr-6	
[lt blu]	Cmdr-7	
[gray 3]	Cmdr-8	
[clr]	Shft-Clr	
[home]	Home	
[up]	Crsr-Up	
[dwn]	Crsr-Down	
[left]	Crsr-Left	
[right]	Crsr-Right	
[f1]	f1	
[f3]	f3	
[f5]	f5	
[f7]	f7	
[up-arrow]	Up Arrow	↑

NEXT MONTH IN THE GUIDE

☐ **MultiPlan:**

The venerable number cruncher speeds up and spreads out in the 128.

☐ **128 Memory Map:**

The authoritative word on where it's at. The essential tool for getting around inside the 128.

☐ **Alter Ego:**

What's life like in someone else's shoes? Created by a psychologist, this unique "role playing" game allows you to explore alternative personalities.

☐ **Flexidraw Light Pen:**

A light pen is the magic wand of computing. Mindy reviews the best on the market.

100% MACHINE LANGUAGE

Dot 'n Draw™

BUY NOW & SAVE

Now that the kids have their own computer...
Give them their own software...

$29.95

ANNOUNCING the **Easiest** Coloring Book Available!

- A delightful program for all ages; easy for kids and a challenge for adults.
- Draw your own pictures and save them on a disk.
- Color your own creations or any of the pre-drawn pictures included in this package.
- Coloring box with sixteen colors.
- Play Follow The Dots with your own pictures or those already on the disk.
- Play two levels of Follow The Dots: Easy, with a flashing dot leading the way, or more difficult, finding your own path through the dots.
- Create a picture, transform it to dots, then challenge your family and friends to recreate the art.

TO ORDER SEND CHECK OR MONEY ORDER TO:

ILLUSTRATED IMAGES
P.O. Box 25722, Portland, OR 97225

FOR INFORMATION OR DEALER INQUIRIES CALL: (503) 246-2774

Commodore 64/128 versions by Chris Scott
Apple version & concept by Don Fudge
All Rights Reserved Worldwide

ALLOW 4 TO 6 WEEKS FOR DELIVERY

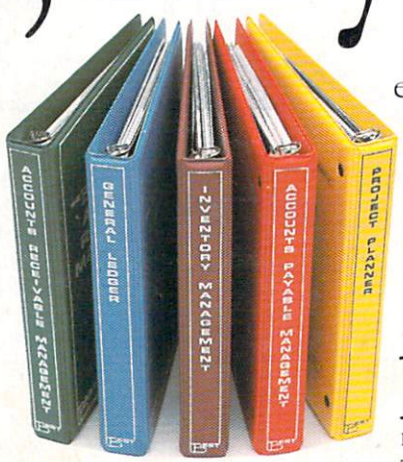
Simple, easy to use.

Professional quality defines new B.E.S.T. software business management systems for the Commodore 64/128.* Ease of use is unique. Manuals are illustrated, readable and easy to understand. Menus are clear and concise.

B.E.S.T. software gives you more time to focus on business. (No need for computer or accounting experience.) B.E.S.T. systems *seem* simple. Yet this is very sophisticated software, easily capable of becoming the indispensible management tool.

Our objective is to make your business easier to manage.

Available at your local computer store.



Prices: Payables & Receivables, $59.95 each; Inventory & Ledger $69.95 each; Project Planner, $89.95.

*Trademark of Commodore Business Machines, Inc.

B.E.S.T. Business Electronics Software & Technology, Inc.
P.O. Box 852 / McMinnville, Oregon 97128 / (503) 472-9512
Toll Free 1-800/368-BEST